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ORIGINAL ARTICLES.

ILLUSTRATIVE ERRORS AND DIFFICULTIES IN THE DIAGNOSIS OF AFFECTIONS OF THE BILIARY SYSTEM.¹

BY C. L. GIBSON, M.D.,

OF NEW YORK;

ATTENDING SURGEON TO ST. LUKE'S AND TO THE GENERAL MEMORIAL HOSPITAL.

THE possibilities offered by the upper right quadrant of the abdomen in lesions, diagnosis and therapeutics are almost infinite. Here we have grouped, wholly or in part, the liver, the biliary apparatus, the stomach, the pancreas, the kidney and the large and small intestines; and in establishing a diagnosis of disease in any of these viscera we must consider the possible confusion with morbid processes in its neighbors. Such confusion is not limited to its immediate surroundings when we remember that abscess of the liver may be mistaken for pulmonary tuberculosis, or cholecystitis for appendicitis or salpingo-oöphoritis.

Besides the recognition of the viscus involved, we have to deal also with the nature and possible site of the disease. Of all these structures none offers richer possibilities than the biliary apparatus. It is only of recent years that what may be termed a popular or general knowledge of their pathology has existed, although perhaps well recognized by the limited number of frequenters of the postmortem room. These observers, however, saw usually only the end of the story. It is rather to the more extensive operations practised in the past decade that we are indebted for the exact knowledge concerning actual processes *in vivo* and more especially regarding their frequency and significance.

The lesions of the biliary apparatus present conditions for and against successful diagnosis which offer fascinating possibilities. Certain symptoms and certain physical signs may indicate the nature and site of the lesion with a directness imitated only by certain lesions of the spinal cord. An individual symptom or physical sign alone may reveal the nature or the site of the lesion or both. On the other hand, we may suffer from a plethora of the signs and symptoms which introduce contradictory elements. All these factors therefore call in the highest degree for that most important feature of diagnostic success—the proper weight to be placed on the individual symptom or sign.

All my experience in this line of work convinces me of the marked need and importance of a good history. The majority of these cases are seen in consultation and one is required to

form an opinion from the facts as presented and from the obvious physical signs. Under such conditions one is very often, and quite properly, tempted to rely on the evidence which one personally elicits, and to cut one's self off from that very important summing up of the relative weight of the individual elements. In trying to analyze the causes of deception or error in my past experience, I am inclined to think that many of these cases could more clearly have been defined by more prolonged personal observation and maturer consideration.

The factor which has as often perplexed me as any other is the identification of a tumor in the region of the gall-bladder. Clinically, we expect to find an evident enlargement of the gall-bladder principally in two conditions; first, the so-called hydrops of the gall-bladder when the exit to the secretions of the gall-bladder is hindered by an obstruction of the cystic duct, provided the walls of the gall-bladder be sufficiently distensible; and, secondly, in compression of the common duct from without, as in tumor of the pancreas. The other sources of enlargement, such as empyema of the gall-bladder, are rare, and yet it is the general custom to lay considerable stress on the presence (or supposed presence) or absence of the gall-bladder.

I have notes of four cases in which a tumor of this region gave rise to confusion.

My first gall-bladder operation was the sequel of a proposed nephrorrhaphy. A young woman with a supposed floating kidney had been for some time under the observation of a very able colleague. Persistent, though rather vague, gastric disturbances and pain seemed to call for an attempt at relief. The supposed kidney (right) was easily palpable considerably below its normal position, corresponded to that viscus in shape and size, and could be easily reduced into the loin. On making a vertical incision posteriorly, the kidney being made prominent in the flank, the subperitoneal fat was separated under the impression that it was the fatty capsule of the kidney, and the peritoneum was entered, revealing an enlarged freely movable, distended gall-bladder. Its contents—clear fluid, six large stones and a stone impacted in the neck of the cystic duct—were easily evacuated and the gall-bladder sutured. An uneventful recovery followed.

The tongue-shaped enlargement of the right lobe of the liver, which overlies the gall-bladder and often seems to be an accompaniment of gall-stones (the so-called Riedel lobe) has twice led me astray.

Male patient with genito-urinary tuberculosis. Castrated on the right side a few weeks previously by a colleague, he developed a perceptibly increasing swelling in the right kidney region.

¹ Read before the Harvard Medical Society, of New York, Feb. 22, 1902.

Symptoms of suppuration present. Supposing it to be a pyonephrosis or a perinephritic abscess resulting from infection originating in the stump of the spermatic cord, a lumbar incision was made. Without opening the peritoneum, I recognized this liver offshoot (the *schwüerer Leber* of the Germans) and its probable syphilitic origin. The kidney was normal. The "tumor" quickly disappeared under vigorous antisiphilitic treatment.

A woman, aged sixty-five years, had had at odd times for nearly a year irregular chills and temperature elevations. She had a palpable tumor, somewhat sensitive on pressure, in the right flank. There was some pus in the urine. Several surgeons agreed on the diagnosis of suppurating kidney. On making a nephrotomy incision a normal kidney was found, and the mass previously felt turned out to be an irregular shaped lobe of the liver. Having had decided suspicions relative to the possibility of gall-stones, I palpated through the intact peritoneum and thought I could indistinctly feel a stone, though where it was I could not determine. I made an anterior incision, investigating as well as I could the gall-bladder and ducts, but without result. The exploration was difficult and unsatisfactory and had to be cut short on account of the patient's bad condition. She recovered promptly, but the irregular chills persisted. Some months later she became jaundiced.

A man, aged forty-four years, had had for a year irregular attacks of pain radiating from the right hypochondrium and attended by gastric disturbances. Coincident with these attacks of pain he occasionally noticed the transitory appearance of a "lump" in the region of the gall-bladder. A colleague of this city saw him twice, easily recognizing the tumor the first time, but finding it somewhat smaller, though perfectly distinct, a day or two later. When he saw the patient with me for the third time he noted that it was still less prominent and that it receded under the liver. This observation I was able to confirm, feeling, as I thought, on deep pressure, a rather elastic tumor about the size of a small orange. History, physical signs and course pointed very strongly to an intermittent hydrops of the gall-bladder from obstruction of the cystic duct by stone or kinking. On exposing the gall-bladder it was found normal, as was also the rest of the biliary tract. The various neighboring viscera were investigated without result. Finally, in a situation considerably below and outward from where it had been originally located, a large adenocarcinoma of the colon was found. We came to the conclusion that we had all been deceived in regard to its fluctuation in size by its varying relation to the abdominal wall, probably depending on the relative degree of intestinal distention.

One of the most important features in these operations is to demonstrate the entire freedom of the biliary tract. Ever since biliary surgery has been in vogue the overlooking of a gall-stone

in the common duct has been a common error, as only part of the gall-stones lodged in the common duct have been removed. However, gall-stones may coexist in the duct as an accidental complication of a more serious form of obstruction, such as is produced by compression from without. It has been my aim of late always to give as much attention to this point as to the condition of the duct.

An additional source of deception is illustrated by the following case:

Man with typical history of chronic impaction of gall-stones with remissions. At the time of operation he had slight jaundice. Stones were removed from the gall-bladder and common duct; drainage of both. Persistent biliary fistula, entire absence of bile in the stools. Intercurrent complications. Death in four weeks. At the autopsy there was found a small carcinoma of the distal end of the duct which had escaped detection at operation. I doubt if it could have been felt with any certainty as I must have palpated it without recognizing it, for I sought in this case, as always, to feel for a possible impaction of a stone in the ampulla of Vater through the overlying duodenum. The actual passage of a probe is such a doubtful quantity that I am no longer disturbed at its failure, generally contenting myself with passing a metal *bougie à boule* into the duct. If a stone be lodged below, the impact should be early appreciated. I may add, as an illustration of the ease with which one may deceive one's self as to the passage of a probe into the intestine, the experience of one of my colleagues. He had been telling me how plainly he could feel the probe passing into the bowel in a certain case. Later, at the autopsy, the pathologist was at first unable to duplicate this maneuver, only succeeding in passing a fine bristle after removal of the parts.

Jaundice usually presupposes a process directly involving the common duct, and yet in two instances I have seen a gall-bladder and its contents by their weight and pressure impinge on the common duct, the symptoms being entirely relieved by emptying the gall-bladder.

Medical students of to-day seem to understand quite clearly the type of *irregular* chills and fever so frequently observed and so characteristic of chronic impaction of a gall-stone in the common duct. My personal observation leads me to believe that this feature seems to be generally overlooked in practice until jaundice makes its appearance.

Jaundice may be very slight, transitory or unnoticed in certain cases. The patient may simply have chilly or creepy sensations and never a frank chill. The temperature variations may be overlooked unless systematically recorded. The absolute irregularity of the process makes the picture fairly typical. Yet I find that most of these patients have been treated a long time for malaria, although real indications of the disease were not present and scientific attempts at proof were wanting or not undertaken. I find it wisest

in my routine surgical practice to assume that malaria is not present until its existence is proven, as its characteristic feature of chills serves as a blind for other diseases, such as pyemia, puerperal sepsis, kidney and urethral disease, and cholelithiasis.

Of late attention has been called to the apparent analogy between the gall-bladder and the appendix, and some surgeons have commented on the occasional difficulty of distinguishing between these acute inflammations. The analogy does seem to exist as far as the tendency to recurring inflammation is concerned. I have only two experiences on the diagnosis.

I saw a young boy with a supposed appendicitis with rather urgent symptoms. No mass could be felt and tenderness was diffuse and best localized between the cecum and the hepatic flexure. A small incision over the area of the maximum tenderness showing no inflammatory process in the iliac fossa, the incision was enlarged upward to permit of exploration of the gall-bladder, the next and most probable, though from other factors improbable, anatomical source. The gall-bladder was uninvolved and the real cause proved to be an interesting condition of non-descent of the cecum, the gangrenous appendix overlying the lower pole of the kidney.

The second case (previously reported) is that of a girl of twenty-two supposed to have appendicitis, whom I watched for two days in the hope of better understanding the condition; there were diffuse right abdominal tenderness, temperature elevation, but rather mild constitutional symptoms. Finally, I determined that the condition was due to one of two things, cholelithiasis or appendicitis. I made an incision midway between the two organs and there came into view under the overlying liver a very large, chronically inflamed gall-bladder, then in a state of acute exacerbation and filled with large stones. Three months previously this young woman had come under the care of another operator and underwent a double salpingo-oophorectomy. I have had doubts whether these two conditions may not have been confused, because for various reasons I had the impression that her gall-bladder condition had existed for some years.

Of the affections characterized by jaundice, the diagnosis generally lies between the internal obstruction of the common duct by stone or of its compression from without, chiefly from pancreatic disease. Ordinarily the diagnosis can be easily made. In obstruction from without the diagnosis generally depends on the progressive *never remitting* jaundice and on the presence of the enlarged gall-bladder—Courvoisier's law—and on the absence of the characteristic features of stone, history of colic, fluctuating jaundice, and typical temperature elevations. It must be borne in mind, however, that a gall-stone impaction may lack some of its characteristic features, or the two conditions may coexist. Again, the obstruction from pancreatic disease may present certain or striking points that may de-

tract our attention, as, for example, in the following case:

I kept an elderly woman under observation until I felt sure of my diagnosis—obstruction from carcinoma of the head of the pancreas. She was emaciated, there was jaundice of a marked but not extreme degree, and an enlarged gall-bladder could be felt. Suddenly, within twenty-four hours, her jaundice increased markedly and continuously. This sudden change shaking my belief in my diagnosis, I operated, expecting to find a stone. A carcinoma of the head of the pancreas was found. Cholecystenterostomy was performed with a gratifying symptomatic cure, the patient living in a pretty comfortable state of health for nearly a year.

Our knowledge of pancreatic disease is becoming better defined, and I think I may claim largely from the more systematic surgical methods of operative exploration. We no longer rest content with the diagnosis of compression of the duct from without, but try to differentiate between relievable and non-relievable conditions. Much work yet remains to be done in this direction, and I feel at present unable to draw a well-defined picture of the several types.

Last year I had under my care a woman, aged thirty years, with fairly pronounced jaundice and a palpable distended gall-bladder. Fever and other typical evidences of gall-stone were wanting. She had occasional periods of epigastric pain and rather vague gastric disturbance. On the whole, I rather favored a diagnosis of gall-stone. I was, however, quite prepared to find a tumor of the pancreas, although the patient's age lessened the probability. Under ether, a tumor corresponding to the position of the pancreas could be felt. After I opened the abdomen and reached the pancreas through a slit in the transverse mesocolon, there was seen what I then judged to be not a tumor but a diffuse hyperplasia involving the whole organ. A subsequent microscopical examination of a small fragment confirmed the clinical diagnosis of interstitial pancreatitis. Cholecystenterostomy was performed, and the patient has greatly improved in health and is entirely free from her previous symptoms.

I trust that I have not conveyed an exaggerated idea of the difficulty of diagnosis in these affections, and still less of their frequency. On the other hand, the scattering illustrations I have related do not begin to exhaust the many problems that are encountered. One should not be content with the exposition of difficulties, but rather to show how they may be anticipated and overcome. Such an attempt, however, is not within the province of the present paper. Practical experience is, of course, the best educator; one can also improve one's self vastly by mentally reconstructing past experiences and by seeking to analyze the sources of difficulty and error. Much that is written on the subject requires a special knowledge for its proper appreciation. I think I have been most helped in theoretical ex-

perience by a close study of cases clinically described, especially those very useful accounts given by Kehr of Halberstadt of his very ripe experience.

Aside from the mental discipline and the very natural ambition to perfect one's work, there is a tremendously practical side in the attempts at refinements of diagnosis and decidedly influences the manner of the surgeon's technical work. An operation is not best undertaken nor conducted on the principle "that there is something that needs operation," that something to be defined by the results of exploration. The judicious operator will prefer to map out a campaign based on surgical strategy. He will have formulated the indications to be met in the order of their importance and greatest probability. He will thus attack directly on this main line. Should this not yield the hoped-for results, he passes consistently to his second line of attack, and so on in a methodical and well-ordered way. This manner of education and practice will give the same gratifying results in surgery as does such conduct in every walk of life.

THE NON-HEREDITY OF ACQUIRED CHARACTERACTERS.

BY LAWRENCE IRWELL, M.A., B.C.L.,
OF BUFFALO, N. Y.

I HAVE more than once pointed out¹ that there is at present no proof that characters acquired by the individual during lifetime are hereditary, although congenital characteristics undoubtedly are, and that the so-called evidence is open to very serious objections. For example, Dr. Talbot of Chicago, in his work upon Degeneration,² quotes Dr. Wolf of Baltimore as saying that out of 600 Jewish boys "two per cent. were born partially circumcised, and 6 per cent. were born with a short prepuce." Such facts and figures as these are valueless for the purpose of showing that complete circumcision is usually transmitted. Moreover, non-Jewish boys are occasionally born without a complete prepuce, which is evidence that congenital variation is the order of the day.

I shall deal with Brown-Séquard's experiments later, but I may mention that in the *Lancet* of March 6, 1897, Professor Ray Lankester wrote that "recent experiment and inquiry have raised considerable doubt" as to their accuracy. I gladly admit, of course, that the opinion of competent investigators is divided upon this question, and I know very well that there are men of eminence upon both sides. In spite of this, I believe that the view of the late Professor Huxley will interest some readers, and I quote an excerpt from a letter written by the great biologist to Mr. Platt Ball, dated October, 1890. "I absolutely disbelieve," said Mr. Huxley, "in use-inheritance as the evidence stands. Spencer is bound to be *a priori*—his psychology goes to

pieces without it." ("Life and Letters," Vol. II., p. 268.)

It seems to me most unfortunate that physicians are unwilling to make themselves familiar with the subject of heredity, for upon the correct interpretation of this problem depends to a great extent the future of the human race. Nevertheless, it is undeniable that the average medical man does not even understand the terminology used by those workers whose efforts are directed toward the unraveling of biological phenomena. From personal experience, I can assert with certainty that a very large number of physicians consider that the words "variation" and "modification," so often used by zoölogists, are synonymous. Perhaps, after all, medicine is more of an art than a science. Sulphate of quinine is good for malaria; hydrargyri chloridum mite for torpid liver; trional for insomnia. Man is, no doubt, the highest animal, but the world refuses to consider the problems of heredity as applied to him, and they are on that account left to the zoölogist and the botanist. In the meantime the human race has begun to degenerate, and degeneration would be much more in evidence than it is if it were not for the beneficent process of natural selection, which removes from this planet large numbers of the congenitally "unfit" before they have reached the age when they are capable of reproducing their kind.

I think I am justified in complaining that in quite a number of books written by physicians for non-professional readers the doctrine of neo-Darwinism is not even correctly stated. Before me is "Sanity of Mind," by Dr. D. F. Lincoln, of Boston. From its "introductory note," I learn that Dr. James J. Putnam and Dr. Mary J. Jacobi have both read and criticized the manuscript. Yet on page 29, I read: "The modern student of heredity cannot fail to be confronted with the recent doctrine of Weismann, who denies the possibility of the inheritance of acquired traits. If I do not mistake his position, he intends to deal with normal organisms. Cases which depend on defect of constitutional vigor would doubtless not be claimed as coming under his prohibition." There is only one way by which Dr. Lincoln could by any possibility have arrived at this unwarrantable conclusion, and that is by neglecting to read what Weismann has written. Had he read the "Essay on Heredity," published in 1883, the "Continuity of the Germ-plasm," etc., published in 1885 (especially p. 171), or the "Supposed Transmission of Mutilations" (1891), translations of all of which may be found in one volume published by the Oxford University (England) Press, he would never have written anything so absurd. Dr. Lincoln's book is full of discussions of heredity intended for the layman, and yet its author has not mastered the contention of such an authority as Weismann! The erudite doctor continues: "That a man of originally sound health could 'acquire the trait' of chronic drunkenness, with immunity as respects the mental health of his children, would

¹ Dietetic and Hygienic Gazette, N. Y., Jan., 1898, p. 6. MEDICAL NEWS, Feb. 11, 1900, p. 271.

² Contemporary Science Series, p. 47.

not probably be claimed; or, if the claim were made, it might safely be disregarded."

In other words, the investigations of men like Francis Galton and Ray Lankester (to mention only two) are to be "disregarded" because a single Boston doctor whose name is unknown in the biological world says so. Dr. Lincoln is asking too much, just as Mr. Thistle, an English physician, asked too much when a few years since he tried to make the readers of the *Lancet* believe that cases of what he called traumatic epilepsy were hereditary. No doubt the epilepsy was hereditary, and epileptics occasionally have falls on their heads. In addition, if a person belongs to a family which is subject to epilepsy, or to insanity, or to some allied disorder, a fall may be the exciting cause of the fits.

I propose to show that Dr. Lincoln is wrong and that we have proof that acquired alcoholism has not been transmitted to the next generation in the past. Indulgence in alcohol increases, to some extent, the desire for whisky or some other "tippie"; but the extent of the craving differs in individuals to a very marked degree. In some persons experience of liquor awakens a desire for quantities of drink; they have the alcoholic diathesis, an inborn trait, which is transmitted with considerable certainty. If the possessor of this diathesis be deprived of all drugs, his neuropsychopathic constitution is demonstrated in some other way. Dr. Lincoln (p. 46) refers to a man giving up alcohol and becoming a gambler; one case of this kind and several somewhat similar cases have come under my observation, although I am not a physician.

We do not know how congenital variations originate, and I have no more idea to what the first case of alcoholic susceptibility was due than I have of the origin of supernumerary fingers. Both are undeniably hereditary. The man born with the alcoholic diathesis becomes a drunkard, unless withheld by moral or other deterrents. In the normal man experience of drink, no matter how prolonged, awakens merely a desire for moderate indulgence; but this desire for indulgence, the capacity for enjoying drink, has been acquired by the individual himself, assuming that he is normal. If acquired traits are usually transmitted, the race which has longest used alcohol would be the most inclined to drunkenness, because each generation would inherit its parents' and grandparents' capacity for enjoying drink, plus its own acquired desire produced by drinking. It is evident that, if the supply of alcohol were sufficient, the desire would become uncontrollable and the race would be exterminated. The conclusion, therefore, must be that the acquired taste for alcohol is not passed on to the next generation; but, if it were, the Jews, who have had alcohol for innumerable years, would have been almost wiped out by its use. If a few Jews were still left upon the face of the globe, they would be chronic drunkards, having inherited the desire for drink of many of their direct male progenitors added together.

This is not so; indeed, we Jews are an extremely sober people, although our ancestors may centuries ago have been drunkards.

All the facts are easily explainable upon a neo-Darwinian basis. Men differ in the intensity with which they crave drink; those who crave most usually drink most. They are the men who were born with the alcohol diathesis. Alcohol most poisons those who consume the largest quantities, and by degrees they are slowly weeded out. This is merely the process of natural selection, and it follows, if acquired characters are *not* transmitted, that the elimination of the biggest drinkers and the survival of the smallest—those who have not inherited an abnormal desire—will result in a lessened tendency to deep indulgence, to the disappearance of those individuals who have inherited the alcohol diathesis, and to the evolution of a more temperate race. History demonstrates the accuracy of what I have written. For example, savages who have never been accustomed to alcohol are very drunken when they can get whisky. On the other hand, the inhabitants of the wine countries generally, who have had liquor for generations, are temperate in the best sense of the term.

I assert without fear of contradiction by any competent person that the vast majority of drunkards are persons who were born with a brain and a nervous system of poor quality, and that narcomania, in any form, is merely the outward manifestation of the disease. Anybody who investigates the family history of drunkards will very quickly discover that these sufferers belong, in most instances, to families which are on the "down grade." I gladly admit, however, that two persons whose ancestry was satisfactory as far as I could discover, but who drank to excess, have come under my observation. (The small number may be due to the fact that I am not a physician.) These individuals may have represented "acquired alcoholism"; but assuming that they were the fathers of abnormal children, I should regard that phenomenon as due to pseudoheredity. Moreover, young men often become drunkards by imitating the drinking habits of their fathers. As some men boast of how much they can drink, it is natural for their sons to grow up with the idea that the ability to drink much is a creditable habit. "Why does not this same thing occur with the daughters?" you ask. Sometimes it does, but they usually imitate their mothers, rather than their fathers; and a woman's opportunities for drinking are not as numerous as are those of a man. With women, "Good-morning" is very seldom equivalent to "Come and have a drink," as it often is with men.

Concerning pseudoheredity the facts are well-known. A typical case is the following: A parasitic larva, living upon a tree with few leaves, develops into a small and stunted imago. Nobody would claim that it "inherited" its abnormality from the tree, and it could not "inherit" anything from the larva, because it is the same insect in a different stage of metamorphosis.

The truth is that the problems of heredity are very intricate and cannot be summarily dismissed because, upon superficial examination, certain conditions seem absurd to those whose knowledge of biology is limited. A parent is in reality a trustee. He transmits, not himself and all his acquired modifications, eccentricities, and tendencies, but merely the representative constituents of which he is both a product and a custodian. In my estimation, his influence over his reproductive elements is little greater than is that of the host over the parasite. Whether this be correct or not, the dictum of Galton, expressed as long ago as 1875, that "acquired modifications are rarely, if at all, *inherited in the correct sense of the term*," should never be forgotten. Dr. Lincoln, in writing that "cases which depend on defect of constitutional vigor would not be claimed as coming under his (Weismann's) prohibition," confounds pseudoheredity with true heredity.

I cannot do better than quote from a paper by Dr. J. G. Adami of Montreal, published in the *British Medical Journal* during June, 1901, and also in the *Montreal Medical Journal* of the same month.

"It is necessary to lay down clearly what is not inheritance, for in medical writings and in ordinary medical parlance a terrible confusion prevails upon this point, and much that is certainly not inherited is commonly spoken of as being hereditary. There is, for example, no such thing as hereditary syphilis. There is congenital syphilis and there are, to employ Fournier's term, inherited 'parasyphilitic' lesions, but 'hereditary' and 'congenital' are not and must not be regarded as interchangeable terms.

"The confusion is due to the common error of regarding the individual as beginning his existence at the moment of birth and not until then, so that everything occurring before that moment is grouped in one category, everything after in another. The chick, so to speak, is not a chick until it breaks open the shell; its status from the moment it ceases to be a new-laid egg or, more strictly, the egg of commerce, until it emerges from the shell is not recognized in law, and fresh egg and chick are commodities of wholly different orders. But the individual existence of the chicken has already begun even before the egg is laid, and what is true of the chick is equally true of the human being. The individual begins the moment that fecundation is accomplished, the moment the nuclear material of the spermatozoon fuses with the nuclear material of the ovum and these twain become one. Compared with the event, birth is seen to be of secondary importance, for the intra-uterine association of the embryo with the maternal tissues is but one means employed by a restricted number of species to insure the satisfactory nourishment of the individual during the earlier stages of development. The recognition of these facts is essential for any serious study of the problems of human inheritance. Any disturbance due to influence affect-

ing the individual from without while *in utero* is *acquired*. It certainly must not be spoken of as inherited; it is an antenatal acquirement or is of *congenital* origin. That alone is inherited which is the property of the individual at the moment he becomes an individual, which is a property of the germ plasms from which he originates, or is produced by the interaction of those germ plasms. The biologist has no alternative but to define inheritance according to the principle here laid down, nor have we, dealing with a limited field of biology, the right to modify terms in general scientific use for our own convenience.

"Suffice it to say that tuberculosis or syphilis of the new-born must, from every valid consideration, be an acquired congenital condition, not an inheritance. And, let me repeat, only that which is derived from the parental germplasms is truly inherited.

"It is to the germplasm, the active matter in the germinal cells and to the properties of that germplasm that we must turn in order to gain our basis for any sound theory of inheritance. Weismann had done yeoman's service in emphasizing this fact. This germplasm it is which conveys living matter from generation to generation."

Dr. Adami's able article has not, I think, received the attention which it deserves, although its author is a pathologist of international reputation. Like the majority of physicians, he is a neo-Lamarckian and puts forward a theory of his own to show that acquired characters are transmitted. With this view I am unable to agree, but nobody appreciates the value of the article more than I do. I am unable to refrain from reproducing the two following excerpts from Dr. Adami's paper.

"Questions of inheritance at the present moment occupy a curious position in the minds of medical men and in medical literature. To judge from the medical press, we medical men are very Gallios—we care for none of these things. . . . Even in my own subject of pathology, treating as it does of the causes, the processes and the results of disease, in the discussion of which the laws of inheritance should obviously be carefully studied, if inheritance plays even a debatable part, turn to any of the text-books in our language and what do we find? A single page, or it may be but a single paragraph, is thought sufficient to introduce and to take leave of the subject. In short, from a concatenation of circumstances the medical study of inheritance is largely 'tabooed.'"

A word concerning the historical aspect of the doctrine that acquired characters are not transmitted. It is an error to regard it as anything new, for the facts are quite clearly stated in James Cowles Prichard's "Physical History of Mankind," published in 1813.

Mr. Leonard Hill of University College, London (England), has repeated Brown-Séquard's experiments upon guinea-pigs, with a different result. The details are as follows (*Nature*, Vol.

55, p. 161): By dividing the cervical sympathetic nerve, a permanent droop of the eyelid can be obtained. When this operation is performed upon guinea-pigs, according to Brown-Séquard, the droop (ptosis) is inherited by their progeny. Mr. Hill divided the nerve of six guinea-pigs on the left side, but none of the "children" of these animals inherited a permanent droop of the eyelid. He again divided the nerve in twelve animals and interbred them, but none of the young inherited the permanent droop. A temporary droop of either the right or the left upper eyelid, frequently observed in the young, was caused by conjunctivitis arising from infection of the eye after birth, for the young were never born with the droop. The droop disappeared with the conjunctivitis, which was not due to paralysis, but to photophobia, and often disappeared on sudden excitation of the animals. (*Nature* being an English journal which I am not permitted to take out of the library, I have quoted the facts and the language from memory as accurately as possible.) Mr. Hill's experiments seems to show that a temporary droop deceived Dr. Brown-Séquard.

I consider that I can offer a good excuse for having written this paper. It is the duty of scientific men "to educate their masters," the sociologists and the legislators, by demonstrating to them that the hypothesis of the heredity of acquired characters is not sustained by reliable evidence, and that the complete recognition of the Darwinian principle of the selection, by Nature and artificially, of those who are congenitally "the fittest," is the only method by which the human race can obtain permanent control of its destiny.

344 Hudson Street.

THE MORNING DROP; ITS TREATMENT.*

BY FERD. C. VALENTINE, M.D.,
OF NEW YORK;

CORRESPONDING MEMBER, SOCIÉTÉ FRANÇAISE D'UROLOGIE; HONORARY MEMBER DETROIT MEDICAL SOCIETY; SECRETARY, GENITO-URINARY SECTION, NEW YORK ACADEMY OF MEDICINE; SECRETARY, AMERICAN UROLOGICAL ASSOCIATION, ETC.

THE morning drop (*goutte militaire*, *Gutenmorgentropfen*) which presents at the male meatus is treated with either callous indifference or dire apprehension. These two aspects are as unjustifiable and as dangerous as they are extreme. When neglected in consequence of indifference, the disturbances which manifest themselves by the morning drop go on unchecked; in the present state of medical knowledge the danger thereof need not be emphasized. When viewed hopelessly because of its persistence, the patient becomes the victim of mental depression which, if it does not entirely disqualify him for the business of life, at least limits his working capacity far below what would be the normal standard for him.

I have elsewhere¹ outlined the elements which produce this symptom and its variations. The

present purpose is to sketch the treatment which this manifestation demands of modern science. This, naturally, must vary materially in accord with the provocative causes. Any attempt to describe these causes separately is confronted by the fact of their being often so interlaced as to be practically inseparable save by a master-pen. Therefore no effort to classify finely is here made as it would, in the present consideration even more than elsewhere, encumber the subject.

It may, however, be permissible to employ the time-honored division which separates any condition into those affections due to local and those due to constitutional causes. Though a moment's thought will show that in genito-urinary diseases this generality will not always hold good, yet the classification is here adopted for convenience.

The local causes of the morning drop, even in a very brief review of them, might suggest that the diagnosis involves considerable research. This, however, is not the case. The diagnosis is neither complicated nor difficult, and when once reached, the treatment, even more than in other conditions, is self-evident. An attempt will here be made to submit these local causes for consideration in the order of their frequency.

1. *Chronic Gonorrhea*.—When gonorrheal urethritis has produced pathological changes in the urethra or its adnexa, these aid in maintaining the chronicity of the fundamental disease. Any or several of the local conditions which provoke the morning drop may act in this manner. Therefore, although gonococci are found in the drop, the diagnosis is by no means complete, and the treatment advocated for chronic gonorrhea will not suffice for its cure. It behooves us, therefore, to differentiate by exclusion; if careful examination eliminate all of them, then, manifestly, we have to deal with gonorrheal involvement of the mucosa exclusively. This subsides under systematic irrigations alone or with methodical dilations. This summary disposal of chronic gonorrhea must seem unjustifiable in view of the vastness of the literature upon the subject. But it must be remembered that at present only one symptom thereof, the morning drop, is under consideration.

2. *Involvement of the Crypts and Glands*.—Without causing much material change in the structure of the urethra's minor adnexa these may be invaded by gonococci. Their presence may be manifest in no other way than by a drop of moisture which appears at the meatus every morning. The diagnosis of this condition is unattainable otherwise than by direct inspection by means of the urethroscope. In their diseased form, the mouths of Morgagni's crypts and Littre's glands are enlarged and often gaping. Positive diagnosis is reached by pumping from them some of their contents by means of Kollmann's gland aspirator. The substance so obtained can then easily be spread upon a cover-glass and examined. Not infrequently the ex-

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pression to which these glands are subjected by dilatations and irrigations, as first mentioned, suffice to restore them to the normal state. Should this not result, they can easily be destroyed by Kollmann's electrolytic needle.

3. *Gonorrheal Posterior Urethritis*.—This may manifest itself in the morning drop alone. The fact that all the urine passed is clear does not exclude a posterior urethritis. The mucosa of this very extensible region may be so slightly affected that it yields no excess of secretion to the passing urinary stream. The diseased secretion may be so small that it requires seven or eight hours of interval between urinations, as during sleep, to accumulate sufficiently to assume a perceptible form. It is then slowly or rapidly extruded and appears at the meatus on awakening.

Among the several methods employed to diagnose this form of slight posterior urethritis, the following are the most exact:

a. *Urethroscopy*.—Visual exploration of the posterior urethra involves at least such experience as will permit painless introduction of the tube into this delicate and sensitive region. The changes therein, however slight, are then evident. But as urethroscopy involves extensive special study, its mere mention here must suffice for the present purpose.

b. *The Expression Urine*.—The patient is first ordered to partly empty his bladder. Then, the finger passed into the rectum, avoiding the prostate, exercises a series of strippings upon the posterior urethra. The patient is then ordered to urinate. Though before this procedure all the urine passed was perfectly clear, the *expression urine*² now emitted will, if it be not turbid, at least contain large or small shreds, filaments and flakes detached from the posterior urethra. These may have been so adherent that without the manipulation described the urinary stream did not suffice to carry them off.

c. *The Methylene-blue Test*.—The patient is ordered to refrain from urinating as long as possible. It is preferable, when this can be done, that the patient come to his physician's office before voiding the first morning's urine. The anterior urethra is then washed out as for Kollmann's or Jadassohn's tests.³ Those who have even slight experience with the use of the irrigator will prefer this instrument for washing the urethra. After the water flowing from the channel is perfectly clear, the anterior urethra is filled with a 1-per-cent. solution of methylene blue. This solution is retained for two or three minutes. The patient is then ordered to urinate about 60 c.c. into one tube and to pass the remainder of his urine into another. If the floaters in the first tube are tinted blue and those in the second tube are not, it proves that the latter come from the posterior urethra.

d. *The Iodide-Iron Test*.—To establish firmly the fact that the water used for cleansing the anterior urethra has not been forced through the compressor, it may be well to use instead of water

alone a solution of iodide of potassium 1 to 1,000. When the patient has urinated as before described, several drops of tincture of the chloride of iron are added to some of the second urine voided. If the iodide solution has penetrated the bladder, the urine so treated will turn blue and the test is thus proven a failure. If, however, it does not become blue by the addition of the iron, the result before mentioned is affirmed. The treatment of the form of chronic gonorrheal urethritis just mentioned consists in dilatations, irrigations, or local applications of silver nitrate or picric acid with the Guyon or Albarrán instillator.

4. *Non-gonorrheal posterior urethritis* may also be disease the presence of which is shown by the morning drop, with or without other symptoms. Non-microbic inflammation of the posterior urethra most frequently follows gonorrhea. It may, however, also result from irritations due to incomplete sexual intercourse, such as coitus condonatus or coitus reservatus. It may likewise be provoked by long-continued masturbation. Each of these causes merits consideration as extensive as is the literature on these subjects. To present an outline, as far as is consistent with the purposes of this paper, it may here be mentioned that

Post-gonorrheal posterior urethritis is diagnosed by the same methods that were suggested for diagnosis of gonorrheal posterior urethritis (3). The treatment of this condition does not vary materially from that of gonorrheal inflammation of the posterior urethra, except that milder solutions of the same drugs are used for the irrigations and instillations. In the non-gonorrheal form of this disease we can often rely upon even so mild an antiseptic solution as boric acid 2 per cent, in hot irrigations.

Coitus condonatus, coitus interruptus and *coitus reservatus*, so much employed by married people for the prevention of conception, may also, as suggested before, provoke inflammation of the posterior urethra without infection of the urinary conduit. This has not received the attention its frequency or its severity merits. In fact, the only author who has touched upon it to any extent is Oberlaender.⁴ He showed that these means of preventing conception (condoms, withdrawal and repression of emission) all provoke hyperemia of the delicate mucous lining of the posterior urethra. When imperfect intercourse is persisted in, the hyperemia leads to maceration of the posterior urethral mucosa with a train of symptoms, both local and reflex, of which the morning drop may be the least disturbing.

Besides the other treatment advocated for posterior urethritis, the prevention of the escape of semen into the vagina must be strictly forbidden. If the patient will not listen to reason for the sake of his own health, it must be made evident to him that his wife also may sooner or later suffer seriously from the consequences of this incomplete mode of sexual gratification. A question presents itself here regarding the women whose constitutional condition forbids pregnancy because

of danger to themselves or because of the impossibility of begetting healthy children. To forbid sexual intercourse to a couple who are tied by the bonds of love and law entails torture to both. Whether we may conscientiously tolerate the above-mentioned practices for the prevention of conception between such couples, is a problem which should be relegated to men wise in sociology.

Masturbation is often cited as one of the causes of posterior urethritis. Only a slight waste of time on quack publications shows how fully charlatans avail themselves of this, and the lurid manner in which they endeavor to frighten men into the dread of all sorts of dire consequences. There is no doubt that nearly all men have masturbated during early boyhood. The vice is usually given up at the approach of puberty. In the very rapid formative stage repair of the posterior urethra then ordinarily takes place. If the vice has not been furiously and persistently maintained, the man develops ordinarily without any consequences whatever. This must, however, not be taken to mean that one should under any circumstances tolerate the vice. A boy guilty thereof should at once be warned or compelled, if possible, to desist, lest the vice gain control of his will-power. In case it does, posterior urethritis, with all its attendant and consequent conditions, may go beyond remedial agencies.

5. *Prostatitis and seminal vesiculitis*, together or separately, may have a persistent morning drop as their most marked symptom. Wossidlo⁵ points out the frequency with which the prostate is invaded by gonorrhea, and Frank⁶ holds that when a patient comes under treatment for gonorrhea and the gonococci do not disappear within from three to five days from the beginning of treatment, the prostate is involved. Omitting polemics from the present consideration, we can never consider our search for the cause of the morning drop complete until we have interrogated the prostate and seminal vesicles. If tactile and visual exploration of the urethra and chemical examination of the urine reveal no cause for the morning drop, we will ordinarily find it in the prostate and seminal vesicles. Massage and stripping of these urethral adnexa will then lead to the abolition of these persistent manifestations of disease. In practice it will be found advisable to follow the mechanical treatment by intravesical irrigations with silver nitrate 1 to 10,000, or by instillations of the same drug 1 per cent., or picric acid 1 per cent. to 1.17 per cent. Naturally no allusion is herein made to the violent, fulminant forms of invasion of the prostate and seminal vesicles; their treatment belongs to a distinct chapter on these diseases.

6. *Stricture*, like the other conditions mentioned, may manifest its presence by an excess of urethral moisture appearing at the meatus in the morning. When all the other means of diagnosis mentioned before and those to be outlined have been employed, the diagnosis of stricture can be

reached by exclusion. This can be further affirmed on microscopy of the urine by the appearance of the urethral epithelia. If their nuclei are abnormally smooth, or have lost their granular appearance, or if the nuclei are entirely effaced, the presence of stricture in some part or parts of the urethra is established. The location of the stricture, as well as its individual characteristics must then be ascertained by means of the largest *bougie-à-boule* which will pass it without pain to the patient or injury to the urethra. The condition which gives rise to the morning drop can then easily be seen by means of the urethroscope. This instrument will show at least maceration of the mucosa behind the stricture.

A divergence from the subject in hand may here be permitted for a word against the employment of sounds for the diagnosis of stricture. A large-sized rigid sound will in many cases glide easily into the bladder. In its passage it conveys no sense of obstruction to its progress. If then a very soft *bougie-à-boule*, even two sizes smaller, be used and be deftly withdrawn from the urethra, it will expose coarctations which the rigid instrument presses open and glides over without the slightest manifestation of their presence. It cannot be too often emphasized that the sound is a therapeutic and not a diagnostic instrument.

The treatment of the various kinds of stricture embraces volumes of study. In a general way, however, it may be said that the majority of strictures will yield to gradual painless treatment with dilators. Those who object to the use of dilators, especially on account of the increased labor they impose upon the physician, may here be reminded that not a single death has followed the use of these instruments.

7. *Tight Meatus*.—This form of stricture (as shown by my former associate, Wm. H. Prioleau,⁷ now practising in Asheville, N. C.), atresia, congenital or acquired, can be the cause of many local and constitutional disturbances. It is within the experience of every practitioner that when the meatus is contracted for any reason an inflammation behind it sempiternally involves the mucosa. In some instances this contracture of the meatus is amenable to dilatation, but in the majority of cases meatotomy is required for its relief. This operation, which can easily be made painless, in no case accomplishes the desired result unless the posterior boundary of the fossa navicularis be slit to at least the same extent as is the meatus itself. It is not at all a rare occurrence to find that a persistent morning drop yields to this slight intervention alone, provided no other pathological condition has been established behind this region.

8. *Growths*.—From causes connected with or separate from gonorrhea, the urethra is the site of neoplasms far oftener than is ordinarily assumed. While these growths are usually benign in character, malignancy is by no means excluded. The most ordinary new formations in the urethra are condylomata. Their removal is always

imperative. In many cases they yield to the direct application of picric acid; when this fails, they must be snared off through the urethroscope and their bases cauterized.

9. *Aseptic (catarrhal) Urethritis*.—When exploration of the urethra with the *bougie-à-boule* and the urethroscope shows a normal mucosa, and when the adnexa of the channel are found to be healthy; when chemical and microscopic examinations of the urine reveal no abnormality, and still a drop appears at the meatus every morning, it is our duty to examine this drop itself as we would any excess of urethral secretion. If microscopy often made shows this drop to consist of nothing but mucus, epithelia exclusively from the upper urethral layers and perhaps but a few occasional pus corpuscles, we may pronounce the case one of aseptic or catarrhal urethritis. If we can eliminate from the case any digestive or other constitutional disturbance as a causative element, our treatment must be confined to irrigations with simple astringents. Of these, tannic acid and sulpho-carbolate of zinc are among the best. In the rather recent cases 1-per-cent. picric acid often proves surprisingly effective; but when picric acid is relied upon disappointment often supervenes—the delight with which the patient reports the absence of the morning drop is frequently followed in a few days by deep chagrin at its reappearance. It is wise, therefore, to warn the sufferer that a quick and brilliant permanent result must never be expected. Should any drug be followed by disappearance of the drop on the following morning, the generality of cases will require irrigations to be continued, at first daily, then every second day. If the drop does not recur in about fourteen days under such treatment, the intervals between irrigations may be extended by interposing an additional day between each irrigation. When the interval between treatments has reached a month the case may safely be deemed cured.

10. *Erection Drop*.—Literary research has not revealed to me any mention of that drop of clear moisture which appears at the meatus of young men or men who are still sexually so young that the morning is ushered in by a stanch erection. The hyperemia of the mucosa so produced evokes an increase of secretion which becomes manifest while the erection subsides. This drop can be evident in those who have never been so unfortunate as to have suffered from a gonorrheal infection. If a person who has read quack pamphlets notices this drop, he will be convinced that there is no prospect for him except impotency, consumption or the lunatic asylum. Usually the evidence of the microscope and of other means of precise diagnosis will not relieve such a patient's mind. He will, unless the dreaded drop be actively treated by the physician, fly to a charlatan who will maltreat the urethra as long as the patient is willing to pay for it. The irritative urethritides thus produced, with all their consequences, are too well known to merit detailing here. It is best therefore to treat such cases

with innocent preparations. These should be given with very precise directions regarding their use, and regularity of sleeping hours should be carefully enjoined. The one method which invariably is successful in these cases is to cause the patient to be awakened before the usual matutinal erection dispels sleep. This is done as follows: The patient is first instructed to observe the hour at which he usually awakens. When this is ascertained he is ordered to set his alarm-clock so that it arouses him half an hour earlier, when he must leap from his bed and urinate as quickly as possible. If the urgency thereof can be made so important that the patient is given no time to examine his meatus, the efficacy of this method will the sooner become manifest. It can be aided by causing the patient to drink at least a pint of water before retiring.

11. *The Courtship Drop*.—This is a designation I beg to offer the profession in the hope that some one more capable will devise a better term. It is intended to describe the drop of more or less opalescent juice which presents at the meatus of some men in the morning after an evening spent in erotic dalliance with women but without sexual intercourse. This drop may occasionally contain spermatozoa, besides prostatic juice, symplexia and urethral mucus.

If the provocative cause be long continued there are found in the drop, besides these substances, epithelia from the posterior urethra, the prostate and the seminal vesicles. It then presages the foundation for spermatorrhea, prostaticorrhea, irritative prostatitis, seminal vesiculitis and posterior urethritis, with all the evils that attend these conditions. It is beyond the present purpose to discuss morals and ethics, therefore no consideration can now be taken of the propriety of advising marriage or illegitimate coitus to cure this premonitory symptom. The manner in which marriage is viewed among us prevents its being looked upon as a therapeutic measure. The remedy in these cases is exclusively abstinence from the provocative cause. If a fiancée evokes the hyperemia, this advice is difficult to follow. The patient must then be instructed to spend no time alone with her. The evening visits, usually devoted to caresses and other demonstrations of affection, should be spent in social entertainments or theatrical diversions, which render these forms of perhaps reciprocal psychological onanism impossible. Were the effect thereof limited to mere excess of urethral secretion, the mantle of delicacy might exclude this matter from professional discussion. But the inroads this vice makes upon the patient's mental and nervous condition alone emphasize the need for its consideration. The local physical changes for which it prepares the field are daily demonstrated in cases of chronic posterior urethritis and the complications of this widespread ailment.

The constitutional causes of the morning drop come distinctly within the domain of the internist. While these causes are but few each one is so va-

ried in itself that its study to a useful degree entails very much research. The most frequent are:

Urinary Disturbances.—Those deviations in tissue metamorphosis which manifest themselves in phosphaturia, oxaluria, excess of uric acid and other urinary expression of metabolic errors can and often do provoke irritation of the urinary passages. This may manifest itself in mere urethral "soreness" or in slight hypersecretions. After a prolonged interval between urinations, such as takes place during sleep, a drop or more of urethral secretion may appear at the meatus. To treat this by local means but aggravates the condition; the remedy lies in correcting the metabolic disturbance, when the urethral irritation ordinarily subsides without treatment. But if despite the correction of the error of metabolism the urethral disturbance continues, the conduit must be treated as suggested elsewhere.

Rheumatic urethritis is a rare ailment the consideration of which is practically embraced in those which are due to urinary disturbances. Its treatment, as suggested by the cause, is in anti-rheumatic diet and medication.

Food Urethritis (urethritis ab ingetis).—Some men almost invariably find an excess of secretion at the meatus on the morning after consuming irritative foods, such as cheese or strong spices. With others, beer, white wine, or carbonated drinks are followed by this manifestation. If exhaustive examination show the drop to be free from microbes and the history of the case reveal its recurrence after each alimentary indiscretion, the treatment is clear. It will be useless to attempt to remedy the digestive disturbance by drugs, or to inure the urethra against its irritations. Abstinence for years, or perhaps for life, from the things which produce the morning drop is the only treatment that can be advised. If the patient be so self-indulgent that he will have his Welsh-rarebit at midnight, or will commit other atrocities upon his digestive apparatus, and if these aggressions be followed by the morning drop, his urethra and his common-sense are beyond the science and art of medicine. Besides the local and constitutional causes for the morning drop are those which belong to neither, yet pertain to both.

Overtreatment.—One of the greatest difficulties with which the practitioner must contend lies in the importunities of patients for treatment when the local and general conditions no longer demand intervention. The presence of ever so slight a quantity of secretion which can be forcibly milked from the urethra is accepted by the patient as evidence of disease. Unless the physician treats the urethra and treats it vigorously the patient will fly to quacks who will confirm his worst apprehensions and render perpetual a condition that would have subsided without treatment. Manifestly, then, our duty is to treat the case, and just at the point of the symptom which disturbs the patient's mind. We must, however, first determine, by several microscopic examina-

tions, that the slight excess of urethral moisture contains no bacteria; by chemical and microscopic examination of the urine, that it is perfectly normal; by tactile exploration of the urethra, that it contains no pathological coarctations; by urethroscopy, that the mucosa and the glands opening into it are healthy; by palpation of the prostate and seminal vesicles, that no abnormality of size, shape or consistence exists; by expression of the prostate, seminal vesicle and Cowper's glands, to obtain specimens of their contents and establish the fact that they are in health; by provoking a discharge with a silver-nitrate injection or an irrigation with mercuric bichloride and examining this discharge.

Irritative injection or irrigation may be preceded by the beer-test, in patients not inclined to become drunkards thereby. The condom test, which is most likely to contain specimens from the entire genital tract, cannot be demanded except in patients with whom the sexual habit is established and who will not abstain from coitus.

All the tests should be carefully executed and several times repeated. When each of these tests has proven negative, it is plain that the excess of moisture which can be milked from the urethra is due to an irritation. This irritation may be maintained indefinitely by the "milking" which the patient employs or by the abuse of instrumentation, irrigation or injections.

Ordinarily the patients in this condition are not amenable to conviction. They insist upon being treated for the artificial ailment. In such obstinate cases we have one recourse, which is invariable effective. It consists in the cruelty of blistering the penis, thus rendering manipulation impossible. By the time the blister has healed the urethra has had the rest it requires and subsequent strippings or milkings fail to produce the drop which erstwhile distressed the patient. This should never be resorted to until all the tests above mentioned have proven that there is no genuine pathological condition that can be made answerable for the symptom.

To those whose practice has led them afield from genito-urinary diseases, it may seem that unwarrantably much of your time has been consumed in the consideration of a single symptom. If an apology therefor be needed it will be found in the tremendous frequency of that symptom.

To our younger colleagues, who must struggle through literature for explanation of the protean causes for the morning drop, as each case presents, this feeble effort at a sketch is offered with the hope that it will aid in their oftentimes arduous tasks. The points which I desire particularly to impress upon these younger colleagues are:

1. That the morning drop is ordinarily a symptom of local or constitutional disturbance.
2. That when it is not due to either of these, it is maintained by overtreatment or artificial sexual irritation.
3. That according to its cause, it must be treated; locally, if due to a local cause, and constitutionally, if faulty metabolism or food irritation be

the provoking element; if sexual irritation be the cause, this must be stopped.

4. That if the morning drop be due to over-treatment, it must be discontinued.

5. That the cause of the morning drop is not difficult to ascertain.

6. That its treatment is within the sphere of the general practitioner.

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IS VIVISECTION A BENEFIT TO ANIMALS AND MAN AND JUSTIFIABLE?

BY E. STUVER, M.D., PH.D.
OF FORT COLLINS, COLO.

"I THINK we might take a suggestion of leniency towards all beasts, since they had prior possession of this world and that man came in afterward. Fish and fowl were created on the fifth day. The cattle were created on the forenoon of the sixth day. Man was not created until the afternoon of the sixth day. Certainly the brute creation first in possession of our world ought to have a little regard from a race coming in after. In what light does this put the horrors of vivisection, or the mauling of living animals for the purpose of improving our knowledge of human physiology? In all parts of the earth, in the name of Science, is this crime going on today, to-night. You have no more right to lacerate a living dog to find out what is best for a sick man than you have to lacerate a living man for the benefit of a sick dog. Let this exploration be a *post-mortem* one, whether in the case of man or beast. Vivisection must by the law of all Christians be forbidden. Maltreatment of the brute, in some respects, is meaner than maltreatment of men, for men can make appeals against wrongs inflicted, but the brute can do nothing but suffer."—*Christian Herald* (Editorial), Dec. 18, 1901.

Both the fundamental conceptions and the facts on which this editorial is based, I regard as erroneous. In the first place, permit me to say that I believe in the honesty of conviction and the sincerity of motive animating the utterances on this subject; likewise I take it that the only aim is to arrive at the truth, the whole truth and nothing but the truth in investigations. In this connection I will say that that I, myself, do not believe any wanton cruelty should be indulged in or unnecessary experiments be resorted to in investigations on living animals.

The ground being thus cleared, let us examine this question in an impartial way and see what course of action will avert from both man and beasts the most suffering and misery. Let us scan the scroll of history, both sacred and profane, and see what relative position man and the brutes have always held, and try to ascertain what causes and influences have contributed to the amelioration of the conditions of both and have helped to raise our civilization to a higher, happier and better plane.

In the first place, which is the more important, a man or a brute? If one's own wife or child were lying seriously ill and it were necessary to sacrifice a chicken, a rabbit or even a dog to save the life of that loved one, would you do it? I do not believe it is necessary to wait for an answer to this question, and in view of this I think the statement, "You have no more right to lacerate a living dog to find out what is best for a sick man than you have to lacerate a living man for the benefit of a sick dog," is overdrawn.

What is the difference between a man and a brute? Have not preachers told us thousands, yea, millions of times over, that by breathing a soul into him God placed man at the head of the animal kingdom and gave him dominion over the lower animals, and moreover that these animals were created for his use, sustenance and welfare? The old Mosaic chronicle is largely made up of specific directions for the sacrifice of goats, lambs, bulls, etc., the choicest of the flocks for the expiation of sins. If God, who we are told is an unchangeable God, does not regard man more highly than brutes, why did He not order the sinners to be slain and let the innocent animals go free? The Savior of mankind spent much of His time in healing the sick, comforting the sorrowing, and relieving the pain and anguish of the suffering. Do you suppose that as He stood by the bier of the dead brother of His friend and heard the words, "Lord, if thou hadst been here, my brother had not died," He thought the dead man—the tenement of an immortal soul—was not better than a dog? Do you think for a moment He would have wept over the carcass of a village cur and restored it to life? I believe that the God-given mission of man on earth is not only to save souls in this world, but at the same time, following in the steps of our great exemplar, to do all in our power to heal the sick, relieve pain and anguish, comfort the sorrowing—fight disease and error and raise mankind to a higher plane, physically, intellectually, morally and spiritually.

I most heartily concur with what is said in another editorial: "God did not build this world for a failure." He created the universe and at the same time he created the laws that govern it. He set in operation the great natural laws that control the course of the planets and the revolutions of the worlds, but at the same time he made the laws that regulate physical and mental health.

He gave man a mind and a will, and placed within him high and noble aspirations which have

spurred him on to develop and train this mind so that he might unravel the mysteries and solve the problems of the physical and mental laws by which he is controlled. Long and tedious has been the way; slow and painful man's ascent from darkness up to light. Every foot of the way has been obstinately contested by superstition, ignorance, fanaticism and misdirected zeal. The God-illuminated genius of man has never evolved a life-saving or mind-soothing discovery that has not been bitterly fought by the great mass of people. The quiet, unobtrusive, self-sacrificing investigators who consecrated their lives to the study of the laws of nature and of life; who not only experimented on animals, but manfully stood at the bedside of plague-infected and fever-stricken mortals, soothing their pains and making a heroic fight against the grim monster, death, even when those nearest and dearest to the sufferers had fled in terror, have down through the centuries been misrepresented, vilified, abused, and held up to the execration of mankind as though they were monsters in human form, and all, forsooth, because they had used a few living animals in making their investigations.

In order to properly understand abnormal phenomena or conditions that he may correct or relieve them the investigator must know what normal phenomena and conditions are. To get this knowledge he must observe these phenomena in the living being.

Thousands of years of empiricism and "post-mortem" deductive reasoning found mankind engulfed in ignorance of the laws of health and correct living and a prey to plagues, pestilences and death which swept over and decimated the earth. In their abject terror and despair they made pilgrimages to the Holy Land, they erected shrines and they offered prayers, but all without avail, and the carnival of death held triumphant sway in their midst.

Having glanced at the appalling results of empirical and wrong methods as exemplified in the most civilized countries of Europe a few centuries ago, let us now survey some of the beneficial results which have come from scientifically applied experimental investigations on living animals.

1. "By experiments on living animals Malpighi, Waller and Conheim demonstrated how blood nourishes the tissues." (See writer's article on "Some Benefits of Vivisection or Experiments on Living Animals," *Cincinnati Lancet-Clinic*, Feb. 3, 1900.)

2. "Aselli and Pequet showed how the chyle is carried into the blood."

3. "By the same means Hunter, Magendie and others revealed the processes of intestinal digestion."

4. "Sir Charles Bell and Magendie discovered the difference between the motor and sensory functions of the spinal nerves."

5. "The Webber brothers, by vivisection (1845) ascertained that an impulse sent down the

vagus nerves will stop the heart from beating; while impulses reaching the cardiac sympathetic nerves from the thoracic spinal cord stir up the heart to more vigorous and frequent beats."

6. Claude Bernard's discovery of the formation of glycogen in the liver (1851) "came," says Prof. Michael Foster, "like a bolt from the blue;" and he adds: "It was the first realistic proof of the synthetic powers of the animal organism. The knowledge that the same hepatic cell was engaged both in secreting bile and manufacturing glycogen, and that the sugar and other products of digestion were carried from the intestine, not straight to the tissues which they were designed to nourish, but to the liver, there to undergo transformation and await some future fate, marked the beginning of a new way of looking at the problems of nutrition."

7. "Claude Bernard (1851) divided the cervical sympathetic (nerve) in a turtle and it led to a widening of the blood-vessels and a warming of the ear and other parts of the head and neck. This experiment was the beginning of our knowledge of the action of the vasomotor nerves and revealed the mechanism whereby the distribution of the supply of blood is regulated and afforded an explanation why a man may not bleed to death in his own veins."

8. "Ferrier, Broca and many others by experiments on living animals have so illuminated the physiology of the brain and localized its functions that many things which a few years ago were dark and mysterious are now as clear as the noon-day sun. These results have enabled physicians to make an early diagnosis of intracranial lesions or diseases and to apply early and appropriate treatment."

9. "In 1674 John Mayow, a young Oxford physician, by experiments on mice showed that the agony and death of a suffocated animal are due to the consumption of a constituent of the air." By this single experiment the dangers of foul and contaminated air were clearly shown, the importance of an abundance of pure air and proper ventilation was demonstrated and sanitary science placed on an enduring foundation.

10. Priestly demonstrated the life-giving qualities of oxygen.

11. "By animal experiments Black discovered the effects of carbonic-acid gas."

12. In the same way Rutherford and Lavoisier proved that nitrogen will not support life.

13. Mering and Minkowski have shown that removal of the pancreas causes glycosuria (diabetes).

14. "Claude Bernard, Brown-Séquard, Vascole and Gley discovered the modern treatment for goiter and cretinism by careful experiments on living animals."

15. "Pasteur, by vivisection, discovered the cure for hydrophobia, and by his investigations laid the foundation of the modern science of bacteriology. He not only prevented human suffering, but by preventing diseases in animals has warded off more pain from them than has

ever been caused by all the vivisectors in the world."

16. "Stimulated by Pasteur's results, Lister, by elaborate investigations, devised our modern antiseptic treatment of wounds. This has brought surgery to a degree of perfection undreamed of a few decades ago and has saved countless thousands of precious human lives, especially of mothers in the prime of life whose death would have been an irreparable loss to their children."

17. "Diphtheria antitoxin, which has reduced the death-rate of this dread disease more than one-half since its introduction, and, according to the eminent scientist, Charles Richet, has each year saved the lives of about fifty thousand children in the United States, England, France, Germany, Italy and Russia, is directly due to experiments on living animals; and at the present time other investigations are being rapidly pushed which will probably in the near future bring cholera, yellow fever, the plague and other dread diseases under the control of the physician."

18. "Gross, Senn, Morris, Reed and other workers in our own country, by vivisections have demonstrated the best methods of repairing gunshot wounds of the intestines, and the most approved methods of operating for appendicitis, which has so reduced the death-rate in these serious conditions that thousands of valuable lives have been saved every year."

19. "The Bureau of Animal Industry, a branch of the Department of Agriculture, by experiments on living animals, has been enabled to stamp out many diseases, and has not only prevented much suffering and death among domestic animals, but has also saved millions of dollars for the farmers and stock-raisers all over our broad land."

20. Dr. Beaumont's careful observations through the opening in the stomach of Alexis St. Martin did more to give a correct idea of the physiology of digestion than thousands of years of empiricism and deductive reasoning had done.

"We thus see that the foundations of physiology, chemistry and sanitary science were laid by vivisections, and many of the greatest advances in practical medicine and surgery are directly dependent on the same cause.

"Indeed, so great are the benefits we enjoy as the result of the immunity conferred upon us by experimental investigations on living animals that many cannot appreciate the appalling condition of the world before these discoveries were made.

"In order to contrast the results achieved by scientific investigation or vivisection, as illustrated by the conditions under which we live at the present time, and the empiricism for which antivivisectionists are so loudly clamoring, let us for a moment draw aside the curtain of history and gaze on the results of thousands of years of empirical experience. Do this and we behold plague and pestilence sweeping over the land, leaving desolation and death in their track. Here we see cities converted into vast charnel houses,

the streets covered with dead bodies, and not enough well to care for the sick and dying; there we behold uncoffined corpses rolled into great trenches or left as food for ravening animals or to pollute the atmosphere.

"We who enjoy the immunity afforded by vaccination can scarcely believe that such ravages were caused by smallpox in London as are so graphically described by the historian Macaulay, who informs us that it was a rare thing at one time to find a person in that great city not disfigured or marked by the dread disease. When we emerge from the mephitic atmosphere, laden with ignorance, disease and death, of the London of two centuries ago, with its death-rate of 80 to the thousand, into the clear light of sanitary and medical progress of the present time, with its death-rate of less than 20 to the thousand in civilized countries, we feel like one who has passed through some terrible danger, who has been surrounded by invisible and relentless enemies which happily have been routed or are being put to flight by the knowledge resulting from experiments on living animals.

"Nor is it necessary to go back centuries to note these changes! Where ten years ago fathers and mothers stood by the death-beds of their dearly beloved children who were strangling and saw them snatched away by the fell destroyer diphtheria, when the sympathizing physician, impotent to cope with his relentless enemy, stood with downcast face, we now behold smiles of joy light up the faces of the parents as they see the roses stealing back to the cheeks of their stricken ones and the proud, happy look of the physician who boldly faces and defeats his old enemy with antitoxin. I ask these fathers and mothers if *one* such victory as this is not worth all the horses that have been used in attaining the results. And when we consider the thousands of innocents saved to advance and adorn civilization through cycles of the future we can appreciate the almost infinitely beneficial results that flow from animal experimentation and form a just conception of the enormous responsibility assumed by those people who would consign *our own children* to a horrible death and cast a pall of disease over the future in order to prevent a few animals from being used for experimental purposes."

The next question that naturally arises in this discussion is, How much suffering is inflicted in vivisection experiments? If we believed half the blood-curdling stories told by the antivivisectionists we would picture scientific investigators to ourselves as incarnate fiends who took a special delight in torturing helpless animals. The facts of the matter, however, are that nearly all experiments are performed under the influence of anesthetics and the animal feels no pain whatever. Then, too, many of the pathetic appeals and blood-curdling recitals of horrible sufferings are based on gross ignorance of physiologic knowledge. If these writers knew that the motor region of the brain is insensitive and that operations on these parts of the brain substance

do not cause any pain whatever, they would be spared many useless tears. More real knowledge and less sentiment would be an inestimable gain both to themselves and to humanity.

In conclusion I desire to say that I admire the zeal and enthusiasm of the antivivisectionists, but why they should so bitterly oppose those agencies which have done so much to make the world brighter and better has always been a mystery to me, when so many much greater evils lie close at hand and urgently demand correction. If they will put a stop to the wanton, useless and utterly repugnant slaughter of the thousands of feathered songsters, *the victims of fashion*, that are every year killed to ornament the bonnets of women throughout the civilized world, they will prevent more suffering than is inflicted by all the scientific experimenters in existence; if they will prevent the wounding and mutilating of the thousands of animals that yearly drag out a miserable existence and probably starve to death to furnish recreation and amusement to distinguished ministers, politicians and others of the leisure class; if they will abolish the chasing of defenseless creatures with horses and hounds until they actually drop dead and other similar cruel things done in the name of sport; if they will rescue some of the thousands of women and children who are constantly dying by slow starvation in our large cities and try to direct them into a higher and happier life, they will find their time fully occupied and they will do a great deal of good.

While they are doing this work they can rest assured that the welfare of humanity, as well as the best interests of the lower animals, will be protected and advanced by physicians and scientists as they always have been in the past.

HEPATIC GOUT AND ITS TREATMENT.

BY J. LEFFINGWELL HATCH, B.S.C., M.D.,
OF NEW YORK;

FORMERLY LECTURER ON BACTERIOLOGY AND DEMONSTRATOR OF MOR-
BID ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA;
PATHOLOGIST TO THE PHILADELPHIA HOSPITAL; LATE
SANITARY INSPECTOR FOR THE PORT OF ANT-
WERP, (BELGIUM), IN THE U. S. MARINE
HOSPITAL SERVICE, ETC.

A CERTAIN train of symptoms which have hitherto obstinately refused to yield to treatment led me to make a careful study both at the bedside and postmortem in several cases of acute and chronic hepatitis, and from these studies I have come to the conclusion, for reasons which I shall endeavor to show, that there exists a form of hepatitis which can be traced to the uric acid diathesis.

The history of rheumatism and of gout, its congener, goes back far into the shadowy vista of the past, at least as far back as Hippocrates, and we find that they are both considered to have originated from a common ancestor and were first observed in the feet, hence the term "podagra." The diseases, passing through different stages of development with symptomatic manifestations, have progressed in definition

through the hands of such men as Arétée of Cappadocia (138 A.D.), Coelius, Aurelius, of the second century, Radulfe of the thirteenth, Bailon of the sixteenth, Sydenham of the seventeenth, Tennant and Pearson of the eighteenth, and Bouillard, Garrod, Charcot, Luff, Lecorche, and others, up to the present day, so that, while the cause of the disease is still obscure, we have the observations of twenty centuries to throw light on its etiology.

During this long period numerous theories as to its etiology and pathology have been advanced in turn, adopted and discarded, until to-day there are many who believe that rheumatism and gout are due to a lesion of the kidneys. Ever since Garrod discovered its connection with an excess of uric acid in the blood, we have been trying to find out how this product is formed and how it accumulates in the body.

In all pathological lesions we must first have a very delicate, almost imperceptible, physiological modification in the part before we notice the first pathological change, which gives rise to the second physiological feature, when we notice symptoms; the true pathological change in structure we term a lesion.

It is generally understood that uric acid is due to defective metabolism, the disassimilation of albuminoids giving rise to uric acid through the intermediate stages of nuclein and xanthin (Kossel), which, if the emunctories be in perfect condition, are readily eliminated from the body without deleterious effects; if, however, the liver and kidneys do not act normally, it is easy to understand how the blood becomes surcharged with these effete substances.

In postmortem examination of gouty and rheumatic subjects, the kidneys are always found diseased. Critzman claims that he has always been able to find lesions of the epithelial cells of the contorted tubules. These changes in structure are due to a previous derangement of the blood-supply, either a hyperemia or anemia, which in turn is caused by a germ, either *in situ* or reflexly, by nervous stimulation or inhibition.

In cases that I have examined (postmortem) the process in most instances had become chronic, so that the primitive lesion was masked by an excessive amount of connective tissue; there was a distinct fatty degeneration of the hepatic cells, even when the parenchyma had not been obliterated by connective-tissue overgrowth. Another important feature was the invariably affected kidneys, while in some instances this had extended to the heart. The majority of the cases showed hypertrophy of the liver, but few showed atrophy. Their history usually gave evidence of the excessive use of alcohol. This probably was the cause of the first physiological change, by bringing about hyperemia which in turn gave rise to a cloudy swelling. This was followed later by a slight increase of connective tissue, which, shutting off the blood-supply through pressure and density of structure, gave rise to fatty degeneration. The degenerate cells were

no longer able to perform their proper functions and thus complete normal metabolism. Of course, the pathological alterations in the parenchyma of the organ formed a favorable nidus for germs present, and, although bacteriologists have so far been unable to isolate a germ *sui generis*, there is some probability that one will be discovered; Gros¹ of Paris says: "All our clinical testimony points to the fact that acute rheumatism is an infective disease, due to a special micro-organism."

Symptomatology.—There is usually a history of past attacks of a similar nature, and the patient will also usually admit having suffered from acute attacks of articular rheumatism. The symptoms are in the beginning vague, wandering, muscular and neuralgic pains, great susceptibility to change of temperature, headaches in the morning accompanied by dizziness; there are frequently hemorrhages from the nose and, when hemorrhoids exist, from the rectum. These hemorrhages usually relieve the headaches and dizziness. Fits of nervous sweating, which are localized in different parts of the body, and sometimes peculiar eruptions resembling eczema occur on the chest, abdomen, and extremities.

The urine has a high specific gravity and is surcharged with urates, lithates, and uric acid; in the advanced stage glycosuria is manifest. The appetite is poor and pica takes its place, the patient craving peculiar dishes, especially such as are acid. After eating there is a sense of heaviness followed later by pain in the gastric region, and when so-called acute "bilious" attacks occur there is great nausea, perhaps vomiting, the matter voided containing bile. At such times there is great prostration, trembling, chills, alternating fever, depression of the heart, often cramps in the muscles of the calves of the leg, inability for physical exertion, and laxity of all the muscles. This is followed by profuse sweating, and intense throbbing pains in the head, with distended veins of the temples, sometimes relieved temporarily by the vomiting. There may or may not be jaundice; this occurs more often in the case of obese subjects. It is at such times that the patient begins to realize that he has a liver because of a sense of uneasiness in that region which later develops into a dull aching pain.

The chief feature for differential diagnosis between these rheumatic "bilious attacks" (for want of a better term we prefer this popular expression) and those due simply to hepatic torpor is the excess of uric acid in the urine and the heavy deposit of urates following an attack, with the subsequent relief (which is noticeable for some days afterward), as well as the history of previous attacks of acute articular rheumatism.

Etiology.—These symptoms are due to excess of uric acid, which is not eliminated owing to the hepatic inhibition and the imperfect condition of the kidneys, which are unable to aid the liver vicariously; the result is a form of uremic in-

toxication and an hepatic explosion with the concomitant symptoms I have attempted to describe.

Treatment.—The cases which led to my making a study of the subject were first treated as ordinary bilious fever due to liver torpidity, with calomel, bicarbonate of soda, nitro-muriatic acid, podophyllin, etc., associated with cathartics, but with little or no benefit. As soon as I recognized what I considered to be its true origin, the usual remedies, from potassium salts to piperazin, were tried with varying results. Colchicum and salicylate of soda seemed to give the best results, more especially when given during the crisis, as experience with these agents showed that the profuse diuresis and moderate watery evacuations succeeded in unloading the system of the pernicious toxins.

Recently the experiments of physiologists have better explained the physiological action of colchicum and salicylates. The salicylates exhibited by the stomach seem to be always taken up in the blood as salicylate of soda, but carbonic-oxygen has a greater affinity for the sodium radical than the salicylic acid, consequently when it comes in contact with this reagent in the blood it liberates salicylic acid. The amount of carbonic dioxide normally existing in the blood, however, is insufficient to bring this about; but under such pathological conditions as exist in the tissues, when there are acute inflammations due to the deposit of uric acid, a considerable amount of carbonic dioxide is formed, thus liberating the salicylic acid at the very seat of the lesion. With such a drug, which can be produced *in situ*, wherever the inflammation may be, what are its properties? It is analgesic, diuretic, diaphoretic, antiseptic, antipyretic; it liquefies and increases the flow of bile from the duct, reduces hyperemia by facilitating the resolution of the products of inflammation, and, above all, causes the elimination of urea, uric acid and its salts, as well as other solid constituents of the urine in excess. I believe the best results, however, were obtained when the natural salicylate of methyl (derived from *betula lenta*) was used, rather than the salicylate of soda of commerce which is synthetically produced.

Colchicum is the historical specific for rheumatism and gout, and this has been so much insisted on by such eminent therapists as Wood, Bartholow, Garrod, Dyce Duckworth, Lecorche and others, that it is useless to recapitulate here. It is, however, a most uncertain drug, not without some danger on account of its violently irritating effects on the mucous membranes and epithelial tissues; the stomach and kidneys suffer from large doses of the wine or tincture, which is never twice of equal strength, even when the same sample is used after long keeping. However, the active principle, colchicine (not colchicine, which is almost inert), is uniform in action and therefore free from all danger, as it can be given in mathematically precise doses.

Its physiological action depends upon its ability to quiet pain, diminish the production of uric

¹ "A Modern Study of Gouty and Rheumatic Manifestations," by Edmund L. Gros, M.D., of the Faculty of Paris, 1900.

acid and increase its elimination, and to promote tissue oxidation and increase the flow of bile, all of which are assisted by its diuretic and purgative properties. Taking all the features of the two drugs together their administration conjointly would seem logically correct, and in the peculiar combination known as colchi-sal we have the remedy *par excellence* for all gouty and rheumatic manifestations. Actual experience with this combination surpasses the results we might expect, much smaller doses being required than theory would dictate. I have no longer any trouble in arresting the violent bilious explosions I have described and by its judicious administration when premonitory symptoms point to an approaching attack the evil can certainly be averted.

This salt is a peculiar compound of one-fourth of a milligram of crystallized colchicine, dissolved in an excess (twenty centigrams) of natural methyl salicylate distilled from *betula lenta*. This is a most important detail in its manufacture, especially since the formula has been made public. It is dispensed in capsules only, the size of a pea, each containing twenty centigrams. As many as fifteen to twenty capsules can be administered daily without any deleterious results; all unpleasant symptoms, such as ringing in the ears, vertigo, delirium, congestion of the kidneys, and digestive troubles are absent. The combination is best given in small and repeated doses, distributed over a certain length of time.

Laborde, of the French Academy, has laid down some fixed rules for the administration of colchicine and these may well be applied in the case of the compound when administered for any form of uremic explosions. *First day:* Four capsules, four times a day, at quarter-of-an-hour intervals (16 capsules per diem). *Second day:* Three capsules four times a day (12 capsules per diem). In most gouty and rheumatic cases it may be necessary to continue small doses for a day or two longer, but in this hepatic variety I have not found it so; there is not, however, any danger in continuing its use. In fact, the supposed danger of accumulation has been much exaggerated in connection with all colchicine preparations.

Conclusions.—From this exposition, therefore, we may draw the following conclusions: There is a certain form of hepatitis due to excess of uric acid in the blood; this is the result of defective metabolism and, when a certain limit is reached, a toxemia results and a consequent nervous explosion with symptoms of headache, vertigo, vomiting, wandering pains, cramps, trembling of the limbs, fever, etc., which fully justify us in classifying it among the rheumatic manifestations under the name of hepatic gout, and this is amenable, like other manifestations of this class, to treatment by administration of colchicine and salicylic acid capsules, and complete removal of the symptoms may be effected if this be persistently carried out.

REPORT OF A CASE OF CEREBRAL TUMOR.

BY FRANK HALLECK STEPHENSON, M.D.,

OF SYRACUSE, N. Y.;

NEUROLOGIST AND ALIENIST TO SYRACUSE HOSPITAL FOR WOMEN AND CHILDREN, SYRACUSE FREE DISPENSARY, ST. VINCENT DE PAUL'S AND ONONDAGA COUNTY ORPHAN ASYLUM; PRESIDENT ONONDAGA COUNTY MEDICAL SOCIETY; MEMBER N. Y. STATE MEDICAL SOCIETY; CENTRAL N. Y. MEDICAL ASSOCIATION; SYRACUSE ACADEMY OF MEDICINE, ETC.

THE subject of this sketch was Mrs. F., aged fifty years, married; of sturdy English ancestry; always healthy; never pregnant, and safely through the menopause. Her history up to the present was negative with these exceptions: Some years ago I had treated her on different occasions for hysteria; for a fractured humerus; and once for gonorrhea, the latter disease having been conveyed to her by her husband, who was under my care for the same disease. She supposed her disease to be a bladder and uterine derangement, and it seemed best for obvious reasons not to enlighten her upon the subject. The history leading up to her last illness began in July, 1899, and was diagnosed neuralgia.

She consulted me in December, 1899, when she presented the following symptoms: Severe pain of a neuralgic character over the occiput, the back of the neck, right scapular region, and at times in the right supra-orbital region. She had occasional chills, constipation, slight fever, and also presented the appearance of a person suffering from coryza. The remedies usually prescribed were given with relief of many of the symptoms. However, the head pains continued in paroxysms, but they were not so severe as to necessitate daily visits until February 6th, from which date I called daily, occasionally two or three times daily. A trained nurse was in constant attendance.

The pain in the region of the shoulder and neck lessened in severity and gradually disappeared, while the pain in the right frontal or supra-orbital region increased in severity and in the frequency of its onset. There was no appearance, history nor special symptoms suggesting cerebral syphilis. The pains were irregular in their onset; and there was no tenderness on percussion at any point. Vision remained normal. The patient could count fingers distinctly, recognize any large or small objects across the room, and had no blurring or double vision. The pupils responded to light and accommodation. The ophthalmoscope revealed optic neuritis. There were no paralyses, local or general; no numbness, hyperesthesia, paresthesia nor analgesia. The superficial, or skin and tendon reflexes, and the rectal and vesical sphincters remained under normal control. Vasomotor symptoms, such as flushes, drenching, perspiration and cold extremities were frequently observed.

The temperature remained normal until March 2d, after which date it was subnormal much of the time, with slight morning and evening variation. The pulse ranged from 76 to 104, which was the highest until February 22d, after which date it was very irregular. The character and

volume varied; the action was intermittent and presented every degree of arrhythmia.

The mind remained clear until March 5th, after which date the patient talked rather incoherently at times, though she could be aroused, and fully understood all that was said to her, giving intelligent responses.

The chemical and microscopical urinary analysis revealed nothing abnormal until February 25th, when traces of albumin were discovered which continued until the end. During the later days, the amount of urine eliminated was greatly diminished with increased specific gravity; and diminished urea, pus, mucus and epithelium was found later. Catheterization became necessary and enemata were employed in addition to laxatives. Until February 14th, the symptoms all pointed to a diagnosis of neuralgia and the usual treatment for such symptoms as have been given was prescribed, namely, aconitine, $\frac{1}{400}$ to $\frac{1}{200}$ gr., every four hours; also nitroglycerin, $\frac{1}{200}$ gr.; phenacetin, quinine, potassic iodide; hot and cold applications, etc. Thinking there might be a specific cause, potash was given in increasing doses, up to 35 gr., then diminished, as the stomach seemed intolerant.

On February 14th there developed trembling and jerking of the left hand and arm. Pulse, 100; temperature elevated; severe pain in the head; normal consciousness. The next day there was difficulty in swallowing and her mind appeared at times dull and delirious. On examination we found she could not use the left hand or arm, though there was slight motion in the members. The left leg also was powerless. Sensation normal in both extremities. The lines on the right face were diminished, but not obliterated. The tongue was protruded in a straight line, and there was no ptosis nor rolling upward of the eye ball suggesting ocular paralysis. Respiration remained normal; pulse variable, from 60 to 120 per minute. As these symptoms developed, I thought of course the pain and paralytic symptoms were from pressure; probably a growth in the right cortex. The iodides and mercurial inunction in rapidly increasing doses and the use of diuretics and occasional purgatives were continued.

The paralyzed extremities were massaged and exercised daily. This improved the hypersthetic condition of the left limb which had existed during the few days preceding February 25th, and also relieved the pain and swelling in the left knee and ankle, which suggested in appearance inflammatory rheumatism. Later the patient could move the left arm and hand, reaching the face, but the leg did not regain power. On the 25th she had a slight attack of trembling, followed by constant moving of the hands, marked perspiration, great restlessness and intense frontal pain for hours, which finally yielded to morphine, when she fell into a long and restful sleep. On February 26th, she again complained of severe pains in the back of the head and neck, symptoms which she had not suffered from for some time. February 28th, the pulse was very feeble; tremor of

the hands and facial muscles was marked. Mental enfeeblement was pronounced, and we feared death was very near. March 3d the patient became dull, cyanotic and appeared very near death, but rallied somewhat and remained practically in the same condition until March 12th, when life was extinct.

A postmortem examination was allowed, which revealed a large tumor of partly broken-down material, the size of a small egg, in the prefrontal lobe of the right brain extending nearly to the cortical layer of tissue in front and superiorly, and well back and downward to the fissure of Sylvius. No other pathological changes were manifest. The examination showed the tumor to be a glioma; very vascular in character.

Regarding the etiology of a brain tumor of this class, many arise by metastasis from distant morbid fields, and then extend into the brain. Heredity is said to play a negative rôle. Traumatism has been considered a cause in some of these cases. Glioma are among the most common forms of brain tumors, the majority occurring in early and active adult life.

This tumor as revealed by postmortem seems to have had remarkable growth for the amount of disturbance manifested, which was doubtless due to the location, namely, the right frontal temporal region, being circumscribed and well removed from the falx cerebri or other resisting structure; hence the tumor did not extend deep enough to interrupt return circulation from the ventricles, occluding the veins of Galen and the straight sinus. There was therefore no dropsical condition producing extreme pressure symptoms. It has been shown that a slow-growing mass may deform the whole hemisphere without producing any symptoms, while another tumor of insignificant volume may produce the most marked motor, sensory and mental disturbance, or lead to sudden death.

The symptoms of these tumors are thus divided: (1) General, irrespective of location; (2) focal, those dependent upon the situation of the neoplasm; (3) topical, those at the superficial site.

The general symptoms sometimes have a localizing value. They are headache, convulsions, mental impairment, optic neuritis and atrophy, vertigo, vomiting, temperature changes, alteration in respiration and pulse rhythm, polyuria, glycosuria, insomnia, delirium, stupor, coma, slow speech and malnutrition. Vertical headache was one of the earliest symptoms in this case. This location of pain is one of the least frequent and suggests cerebellar tumor. The supra-orbital pain, which was almost over the seat of the tumor, was also an unusual circumstance, as we do not usually find that the location of the pain has any bearing upon the tumor location. Cerebellar growths are often accompanied by pain in the neck, but in this case the latter existed without a growth in that location. Over one-half of all cases of brain tumor have convulsions; but this patient presented only slight Jack-

sonian symptoms on two or three occasions. Mental impairment, which is frequent in tumor cases, was not manifest in this case, and my patient was not at all worried over her condition; but this is characteristic of many of these cases. Her vision remained excellent, though there was double neuritis. Vomiting occurred very late and infrequently; doubtless the location of the tumor accounted for its absence, since we observe that this latter symptom and vertigo occur most often when the tumor is located at the base of the brain.

Regarding focal symptoms, left hemiplegia only was well-marked. Topical symptoms, as heat and tenderness, were not present, though headache was pronounced. In these softer growths hemorrhage may take place, occasioning some other cerebral symptoms, and I am surprised that it did not occur in this case, as there was so much broken-down material; but it was not manifest pathologically. The paralysis was doubtless due to the cutting off of the motor tracts through their course downward before entering the capsule, as the growth was located too far anteriorly to destroy their point of origin at the cortical center. We find that these gliomata are interstitial and occur most often in the deeper structures. They are insidious, of steady development and frequently occasion apoplectic seizure. This growth was apparently near enough to the surface to have been removed, had physical condition and certain diagnosis warranted; but when the character of the tumor was known, we were glad it had not been attempted, as such growths are infiltrating in character and liable to recur. The intensive iodide and mercurial treatment was given in the hope that the pressure might be of specific origin; also in the hope of improvement, even if the pressure were from some other cause than syphilis.

This case, though not unique in any respect, was interesting in many ways: (1) Its onset and general appearance, suggesting neuralgia; (2) the short duration of the symptoms of suffering in comparison to the serious ravages in the brain by the tumor; (3) the absence of so many symptoms of brain tumor when a growth of so great size and so much destruction were present; (4) the absence of mental impairment, when such an extent of damage had resulted; (5) the marked improvement in the use of the left hand and arm, when such damage had occurred in the brain; though of course this was due to the miraculous escape of some of the motor fibers from the effect of pressure, which was probably relieved by absorption of broken-down tissue, no hemorrhage having been found; (6) the early and continuous neck and occipital pain, which latter disappeared almost entirely, its place being taken by supra-orbital pain directly over the seat of tumor.

Abdominal and Pelvic Adhesions.—The formation of these is believed by M. T. BRENNAN (Montreal Medical Journal, May, 1902) to be avoided by the free use of sterilized olive oil at operation.

OBSERVATIONS UPON TWO INTERESTING CASES OF THE LOCAL MANIFESTATIONS OF HYSTERIA IN JOINTS AND MUSCLES.¹

BY PRESCOTT LE BRETON, A.B., M.D.,
OF BUFFALO, N. Y.;

ASSISTANT ORTHOPEDIC SURGEON TO THE CHILDREN'S HOSPITAL;
ASSISTANT ORTHOPEDIC SURGEON TO THE ERIE COUNTY HOSPITAL.

THE histories of these patients, the first a case of hysterical condition of the ankle-joint and the second a case of acute spastic torticollis associated with hysteria, are as follows.

Case I.—Male, aged thirty years, single, detective. While walking over some rough ground at the Pan-American Exposition on September 11, 1900, the patient stepped on a loose stone which slipped, causing a sudden violent inversion of the left foot. He felt a sharp pain along the inner sole and instep, but managed to walk home. He continued at his work for a week, during which time the foot was slightly swollen and discolored, and ached continually. He consulted in succession two surgeons, who treated him chiefly by rest in bed and local measures, fly blisters, poulticing, hot stupes, and a series of six plaster-of-Paris casts to obtain immobilization. The pain in the foot continued and became almost unbearable, and the question of operation was discussed although no evidence of inflammation or pus formation was present. In December, Dr. J. W. Putnam was called in consultation and he diagnosed a hysterical condition of the ankle and asked the writer to treat the case.

Examination, December 27, 1900. A tall, slender, pale-faced man of very nervous appearance, rapid in conversation, quick to answer or ask questions, in gesture and in change of expression like a Frenchman. His ability to remember details was astonishing, and his favorite hobby, chess and checkers, gave him opportunity to display this faculty, for nothing had pleased him more than to sit blindfolded and play six games of checkers and six games of chess at once and win them all against twelve opponents. He informed the writer that his family and personal histories were negative, that his general health had been excellent and was yet very good considering his fourteen weeks' rest in bed and continued loss of sleep. A support held the bed-clothes away from his foot, which was enclosed in a plaster-of-Paris cast. The cast was removed with difficulty as the least jar to the bed or leg gave him increased pain. The foot was found to be in a position of extreme plantar flexion and held rigidly in the one position. He was as unable to move the foot or toes as if the member were completely paralyzed. No signs of inflammation or swelling were apparent. On the contrary it seemed like the foot of a cadaver, very pale, bloodless and cold. The slightest touch, the faintest breath of air caused excruciating pain. Firm, deep pressure upon the bones, however, produced only an ache. When blindfolded the patient could not feel the current from

¹ Read at a meeting of the Medical Section of the Buffalo Academy of Medicine, March 11, 1902.

the electrode of a faradic battery applied over the instep and inner side of the foot. The muscles of the calf showed normal faradic contractility, and the contraction caused pain. The right calf measured in circumference $13\frac{1}{4}$ inches, the left 12 inches, an atrophy of disuse of $1\frac{1}{4}$ inches. The knee jerks were normal. His temperature was found to be 97.5° F. in the mouth, and physical examination proved negative. No attempt was made to test the mucous membranes for anesthesia nor the eyes for concentric diminution of the visual fields on account of the peculiar temperament of the individual.

The treatment to be pursued was then outlined to the patient. He was told that the present condition of his foot showed that the inflammation had subsided, that the results of his injury needed treatment of an active nature and instead of amputation a useful foot would be restored to him. The support for the bed-clothes was to be removed, the plaster-of-Paris cast was to be used at night only and soon not at all. He was ordered to sit up each day in a chair, gradually increasing the time spent in the upright position. A Kelly hot-air apparatus was placed about the foot and a twenty-minute treatment given, followed by an attempt at passive movement of the ankle-joint. This treatment increased his pain but he was informed that the heat produced the pain by dilating the blood-vessels and improving the circulation. Lac asafetide, ss t.i.d., was ordered and the hot-air treatments and passive movements were repeated every second day.

January 2.—The cast had been replaced on the foot at night only and the patient sat up all day in an easy chair. The pain and tenderness had not diminished, but he could endure greater heat for a longer period of time. Strong pressure on the sole caused a little motion toward dorsal flexion. The temperature by mouth ranged between 97° and 98° F., and there was a rise to normal or above after each hot-air treatment.

January 9.—Marked improvement was now evident. The pain had lessened. It was possible to bring the foot to a right angle and the patient took pleasure in placing the sole against the floor and moving the foot. For the first time voluntary motion was seen and the toes could be slightly flexed and extended. The cast was thrown away and massage of the calf muscles added. Unfortunately the patient's mother did not believe in these heroic treatments, and continually did all she could to prevent her son from carrying out instructions and to undo the good accomplished. It regularly required more of the writer's time and patience to treat her mental condition than to care for the patient himself.

January 16.—Continued improvement. Applications of faradic electricity were added to the massage, hot-air, passive and active movements. It was noticed that several circular hyperemic spots, from $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter appeared on the dorsum of the foot and remained for sev-

eral hours. Some beads of sweat were present after the hot-air bath.

January 25.—The asafetida was stopped and maltine with hypophosphites was ordered. The patient felt the electric current on the dorsum of the foot. With the aid of crutches he walked about the house bearing some weight on the foot.

February 6.—The left calf had increased in circumference $\frac{3}{8}$ of an inch. The patient voluntarily brought the foot to a right angle. The foot was flushed in appearance and very sensitive to the faradic current. Sleep had been undisturbed and the pain was of a dull, aching character.

February 8.—The previous evening a puffy swelling had appeared on the instep and an increase of pain was noticed. The foot was hot, hyperemic and perspired readily. The hot-air treatments were discontinued.

February 21.—The crutches were discarded and a cane was employed. The foot was placed in a shoe for half an hour. Alternate douches of very hot and very cold water were given.

March 9.—The shoes have been worn for ten hours daily, and considerable exercise indulged in without the use of a cane. Only one-half inch difference in circumference between the calves remained. A slight persistent dull ache was the only complaint.

In December, 1901, the writer saw the patient running at the top of his speed to catch a car. His gait showed no sign of any previous trouble in the foot.

Case II.—School girl, aged fifteen years. In December, 1900, the patient contracted a severe sore throat and at the same time noticed a swelling in her neck which afterward proved to be a goiter. While she was recovering from the sore throat she observed that the muscles of the right side of the neck at times would "jump," causing the chin to turn to the left. These spasmodic contractions soon became persistent and tonic contraction resulted, changing the position of the head and causing considerable pain in the muscles and in the right side of the head. She consulted a physician who treated her with static and faradic electricity but her condition persistently grew worse and the goiter increased in size. She then consulted Dr. N. G. Russell, who ordered an ointment to be rubbed in the skin over the goiter, and who gave her iron as the blood examination showed a diminution of hemoglobin. Dr. Russell noticed her hysterical condition and referred her to the writer for treatment for the torticollis.

Examination, July 3, 1901.—Family history, one sister has had neurasthenia. Personal history: The patient has never had a serious illness and is now a well-built girl, large for her age. The characteristic position of the head in wry neck was very noticeable, the chin elevated slightly and turned to a point about midway between the left shoulder and the middle line of the body. A decided inclination of the head

toward the right shoulder was present. On loosening the dress the thyroid gland showed a moderate and uniform enlargement. The usual compensatory convexity of the cervical spine was apparent. Palpation of the neck demonstrated that the upper part of the right trapezius was the muscle mostly affected and to a lesser degree the right sternomastoid. The muscles underlying the trapezius felt harder than normal and all the muscles involved were tender to pressure. Raising the patient in the Sayre's suspension apparatus caused pain and brought out in bold relief the muscles at fault. Various stigmata of hysteria, anesthesia of the mucous membranes of the eye, nose and pharynx were present. No anesthesia of the cutaneous surface and no limitation of the visual fields could be found. A good prognosis was given, based on the age of the patient, the short period of time since the onset and presence of hysterical symptoms. Treatment consisted in the following: (1) Repeated assurances of recovery, *i. e.*, suggestive therapeutics. (2) *Lac asafœtidæ* ʒss t.i.d. (3) Stretching of the neck muscles by raising the patient in the Sayre's suspension apparatus on her tiptoes for two minutes three times a week. (4) Exercises, especially designed to stretch the contracted muscles and exercise the opposing muscles, three times daily. (a) Rotation of head to right as far as possible. (b) Flexion of head on chest, keeping the chin near the median line. (c) Extension of head, combined with an attempt to hold the head in the median line. (d) Movement of head toward left shoulder, combined with an effort to rotate chin and occiput to the median line. (e) Various movements of the left arm bringing into action the left trapezius and left sternomastoid. (5) General directions. A rest for one hour on a sofa morning and afternoon. Regular exercise and regular meals. To retire at 10 P. M. and sleep on left side and back, not on the right side only. To give up school, all reading and study. To avoid social gatherings and the theaters.

July 15.—Marked improvement was already evident. The pains in the neck and head were present for two hours only each morning. In consequence sleep had been undisturbed. The patient could hold her head in better position and could voluntarily force the chin to the median line. Suspension caused very little discomfort.

July 26.—So much relaxation of the muscles existed that various exercises with the right arm were instituted to bring under voluntary control the right trapezius and right sternomastoid.

August 2.—The goiter was hardly apparent. The patient had had no pain for four days and could force the chin half way round toward the right shoulder. The left arm exercises were omitted and the right continued to overcorrect the deformity.

August 7.—Pain had been felt for a short time in the morning and rarely there was a spasmodic jump of the muscles, which were softer

and less tender to the touch. The patient went away for a vacation, returning in September, when examination showed that the wry neck position was not yet entirely overcome. She declared herself well, so the exercises alone were continued and the warning given that if the symptoms returned after commencing school to remain at home.

October 11.—As was expected, study and the confinement of school disagreed, causing some pain and contractions, so it was decided she should leave school for the winter.

January 1, 1902.—The patient was in excellent condition. She had gained about fifteen pounds during the past six months and had continued to exercise and lead a quiet regular life.

These two cases have been reported together because of certain similarities in their etiology, symptomatology, diagnosis and treatment. In each the local manifestation of an innate tendency to hysteria was produced by a peripheral irritation as an exciting cause, in the one case an injury, and in the other case an inflamed throat. Indeed, this is true of the great majority of hysterical affections—there is a preceding injury, disease or mental shock which develops the hysterical condition, while in very few cases do we find no antecedent etiological factor. In each case lack of recognition of the hysterical element led to the institution of treatment on a wrong basis with the consequent increase of symptoms. In each case there were certain necessary essentials to insure success,—absolute diagnosis of the condition, mental command of the patient, promise of recovery and strict adherence to a definite form of treatment. Suggestion alone would have been of no service, but active treatment to improve the general health, to stimulate the local circulation and to exercise the muscles was imperative.

The foot is usually held in a position of talipes varus or valgus in cases of hysterical ankle-joint. Dorsal or plantar flexion is rare. In Church and Peterson on Nervous Diseases, p. 556, may be seen the photograph of a case exactly similar to the one reported, in which the position of the foot, contraction of the muscles and atrophy of the calf are seen. Commonly the surface temperature about the joint is reduced, and sometimes congestion and discoloration are present. Since Brodie called attention to this class of cases in his "Diseases of the Joints" (2nd edition), the treatment has been greatly elaborated. Severe counterirritation, as the fly blister and cautery, calls the attention of the patient too strongly to the joint; and hot air, faradic electricity, passive and active motion with massage are advisable. Temporary support by crutches or brace is useful to increase confidence, but they must soon be discarded. Successful results may not be attained until the patient is removed from home and from the influence of friends and relations. In cases of several years' standing in which deformity has persisted, tenotomy is necessary, as recommended by Keen, Bradford and others.

According to Gowers cases of wry neck in females under thirty years of age are often of a hysterical nature and this is probably true of males of the same age. Whitman,¹ in a study of 212 cases of torticollis, found but one case associated with hysteria, but 181 of the cases were of the class of acute spastic torticollis due to irritation of the peripheral nerves of the nasopharynx, the muscles involved being those supplied by the spinal accessory. Gowers states that fly blisters are of great service in hysterical cases, and that rarely after an apparent cure relapse may occur and the persistent form of wry neck develop.

MEDICAL PROGRESS.

MEDICINE.

New Reaction for Diacetic Acid.—While working on the determination of sulphuric acid in urine, E. RIEGLER (*Medecin. Blät.*, Apr. 3, 1902) discovered a new test for diacetic acid. Fifteen cubic centimeters of urine are acidulated with from five to ten drops of concentrated sulphuric acid; when two or three cubic centimeters of an aqueous solution of iodic acid are added, an intense pink color will appear, which is not taken up by chloroform. Other substances that are liable to occur in urine were tested but none gives the same reaction, which is still strong when the ferric chloride test fails.

Treatment of Diphtheria.—A valuable adjunct to the injection of antitoxin serum is believed by E. W. SAUNDERS (*St. Louis Cour. of Med.*, Apr., 1902) to exist in the administration of pilocarpine. The benefit is supposed to depend upon the stimulation of the excretion of the toxin which the drug induces and the increase of the leucocytes. The specific action of the antitoxin is manifested in a varying interval, which ranges from twelve to thirty-six hours, and during this interval the organism is at the mercy of the diphtheria toxin, which may initiate a degeneration of the nerves or of the cardiac muscle. It follows that paralysis may result in spite of treatment with antitoxin, which can only neutralize the free toxin in the blood. In all cases, therefore, exhibiting an exudate or a pseudomembrane in the faucial mucous membrane he administers pilocarpine at once in doses sufficient to cause salivation and diaphoresis. In any case in which diphtheria is at all suspected a culture should be at once taken and a dose of antitoxin injected. Special attention should be given to the antitoxin used, for it is liable to deteriorate rapidly and should never be used unless it has been withdrawn from the animal within six weeks.

Diet in Chronic Nephritis.—The proper regulation of the diet in chronic nephritis constitutes almost its entire therapy and it is of the greatest importance for the patient to avoid irritating articles of food. It is for this reason that milk is so often ordered, but many patients cannot take it for long periods. J. WICZKOWSKI (*Wien. klin. Rundsch.*, Apr. 20, 1902) analyzed the amount of urine and the percentage of albumin voided by a large number of individuals suffering from chronic parenchymatous nephritis, and finds that the quality of the food, whether this consist solely of milk or of white or even dark meat, has no appreciable influence. In those cases in which there is a tendency to cure or improvement, this continues nevertheless; in the severe cases even milk can not delay the fatal issue. In fact, a varied diet is to be preferred, since with it the appetite improves and the general condition of the patient

becomes more satisfactory, so that on the whole life is lengthened.

Hemoptysis and Its Treatment.—There are few conditions in medicine which require so much presence of mind and correct judgment as does the occurrence of a hemorrhage in tuberculosis, for it is not only the loss of blood, with its symptoms, but also the extremely depressing effect which this catastrophe has upon the usually hopeful patient that require tactful management. A. R. VON WEISMAYR (*Wien. klin. Rundsch.*, Apr. 20, 1902) states that the hemorrhages are due to aneurismal dilatation of the blood-vessels where they lack support in the walls of a cavity, or else are dependent upon changes in the vessel-walls themselves. Most often branches of the pulmonary artery are involved. Very often a latent tuberculosis manifests itself first by a hemoptysis, after which the process becomes more acute; conversely, it may have a salutatory effect in that it brings the patient to the physician. Hemoptysis occurs in about 30 per cent. of the cases; fatal hemorrhages occur in 0.15 per cent. There is no direct relation between the frequency of hemorrhage and the intensity of the disease, since, in addition to the stage of cavities, it occurs most often in the initial period and has also been seen when complete cicatrization had already set in. The blood lost varies within wide limits; the largest amount recorded is 9,250 cubic centimeters in one and one-half months. It injures the body not only in general by the anemia it causes, but also injures the lung directly by infiltrating and compressing the air-cells and perhaps by bringing about an aspiration pneumonia. Fever occurring after hemoptysis is generally an unfavorable symptom. Concerning treatment, an occasional streak of blood calls for no interference; if, however, this occurrence repeat itself frequently, absolute mental and bodily rest should be ordered; the patient should be put on fluid diet and the cough diminished by a narcotic. For large hemorrhages posture (elevated thorax) is of importance. Every attempt is to be made to influence the patient psychically to remove that mental agitation which predisposes to further accident. By means of an ice-bag over the heart and by tying off the extremities the pressure in the pulmonary circulation is diminished, but care must be taken to relieve the venous stasis in the arms or legs only gradually when pain is felt, else the sudden rise will be followed by a new hemorrhage. In general, morphine does little good in the more severe forms. The same may be said of the hemostatics with the exception of oil of turpentine and even gelatin should deserve little popularity. The expectoration of the exuded blood is rarely necessary, except when suffocation is feared. It is best to put the patient on cold milk during the dangerous period, to keep the bowels open with enemata of plain water, and not to let him get up until the sputum has been free from blood for three days.

Epidemic Parotitis.—The occurrence of an epidemic of mumps in the city of Prague has led to a careful study of this disease by F. PICX (*Wien. klin. Rundsch.*, Apr. 20, 1902). In general the epidemic had the usual characteristic, but adults were quite often affected and in a large number of cases the testicle was inflamed. In not a few of these it was the epididymis rather than the testicle, and the possibility of wrongly diagnosing a tuberculous or gonorrhoeic affection is pointed out. The only other complications seen were phlegmonous angina in two cases, and in several tenderness over the epigastrium, to be attributed no doubt to swelling of the pancreas. Bacteriological examination of the blood at the height of the fever was always negative, while by puncturing the parotids cocci resembling the meningococci were obtained which were

¹ Orthopedic Surgery, 1901.

not, however, further investigated. Blood-counts showed that even during the periods of highest temperature there was no leucocytosis, but a slight relative increase of the mononuclear elements could be determined.

Dyspneic Coma in Uremia.—The air-hunger, first described by Kussmaul was for a long time considered characteristic of intoxication by oxybutyric acid, as it occurs only in diabetic coma. Later investigations, however, showed that a similar symptom-complex may occur in a number of other conditions, such as severe anemia, carcinoma, cachexia, gastroenteric disturbances, and salicylic-acid poisoning. The possibility of the dyspnea being uremic had already occurred to Kussmaul, but the absence of headache, slowing of the pulse, diminished diuresis and catarrh of the finer bronchi in diabetic coma led him to consider it something different. F. DINELES (Wien. klin. Rundsch., Apr. 20, 1902) has observed a case of pure uremia in which acetone and diacetic acid could be detected in the urine and in which a distinct diabetic air-hunger was present, while in several similar ones no excretion of acetone or allied bodies occurred. No disturbances of heart or respiration were present to explain the symptom; probably an irritation of the respiratory center existed. The character of the renal change played no part, since in his patients the various, different lesions of chronic nephritis were found; a point of importance, however, was the fact that epileptic attacks did not occur.

Contributions to the Malaria Question.—Experiments upon the artificial transmission of malaria by the mosquito lead S. PURJESZ (Wien. klin. Rundsch., Apr. 20, 1902) to the following results: (1) Healthy persons can be infected by the sting of the *Anopheles* mosquito which has been allowed to suck blood containing crescents capable of further development, if the insects be kept in a thermostat under suitable conditions. (2) The sting of a single insect is sufficient to infect. (3) Since all persons experimented upon acquired malaria, the question of an immunity could not be settled. (4) The time between the inoculation and the appearance of the first symptoms varied from seven to eleven days and the statement of certain authors that malaria can be acquired in so short a period as half an hour is discredited. (5) In no case did the disease begin with a definite chill, but the fever, at first slight, gradually increased in intensity, which seems to show that a constant multiplication of the parasites is going on in the blood and that a large number is necessary for a chill. (6) The variations in the period of incubation did not necessarily stand in relation to the number of *Anopheles* by which the individual was bitten, but other unknown factors must be drawn into consideration. (7) During incubation, absolutely no subjective symptoms were noticed. (8) The condition of the spleen was not constant; in some it was swollen before the first rise of temperature; in others it could be felt only after the fever. (9) The type of the malaria artificially induced always resembled that of the patients from which the mosquitoes were allowed to obtain their crescents and the same parasites were always found. (10) The peripheral blood at the beginning of the illness never contained any crescents. (11) Of great practical importance is the fact that full doses of quinine, given as a prophylactic, did not prevent the appearance of the fever with its usual symptoms.

Pneumococcus Sepsis.—Although general septic conditions due to the pneumococcus are not uncommon, the observations made on a certain series of cases by PROCHASKA (Deut. med. Woch., May 22, 1902) may have an important bearing on the etiology of the process. In one case during the course of an acute

febrile bronchitis, there came on a hemorrhagic nephritis. Examination of the urine showed the presence of the pneumococcus, which was also found in the blood and sputum. Two others cases of bronchitis were accompanied by recurrent chills and showed an enlarged spleen; the blood was free from plasmodia, but contained numerous pneumococci. A fourth case, beginning in a similar manner, rapidly went into collapse with high fever, cyanosis and orthopnea. The pneumococcus has often been found in the blood of pneumonia patients without there being present the signs of the septic conditions which were so marked in the author's cases. Moreover, in these patients no physical signs of pneumonia could ever be demonstrated—not even in the one case in which an autopsy was done, and the author believes that the bronchitis which was present in all afforded the point of entrance for the germs, and that no intervening pneumonic process resulted.

Diabetes Mellitus from Diabetes Insipidus.—The relation between these two conditions has been frequently noted. But little has been done in experimental investigation of the interdependence of the two diseases since Bernard, through puncture of the floor of the fourth ventricle at a point somewhat higher than that of the so-called diabetic center, produced polyuria without glycosuria. Clinically, however, there are many evidences that diabetes insipidus and mellitus are closely allied. Many cases of tumors, cysts, etc., of the brain encroaching upon the floor of the fourth ventricle in certain instances are accompanied by simple polyuria; in others, by glycosuria. Traumatism, especially involving the central nervous system, and psychical emotion may produce diabetes insipidus or mellitus. Diabetes insipidus may occur in members of a family in which there is or has been a case of diabetes mellitus; and finally, in the same individual diabetes mellitus may change to diabetes insipidus and vice versa. The former change is not infrequent, but there have been previously recorded but four instances in which diabetes mellitus has developed from diabetes insipidus. L. D'AMATO (La Riforma Medica, May 13, 1902) contributes to the literature of this subject a description of two cases, in one of which diabetes insipidus, as indicated by extreme polyuria and intense thirst, lasted for thirty years, at the end of which time excessive hunger, emaciation, muscular weakness, etc., developed in addition to the already-existing symptoms, and examination of the urine revealed sugar in large quantities. An interesting question is raised by the author, namely, whether diabetes mellitus was superposed upon the diabetes insipidus or whether the former simply succeeded the latter. The favorable influence of a rigid diet upon both polyuria and glycosuria, as is the case usually in diabetes mellitus, furnishes evidence, in the writer's belief, that the latter succeeded the diabetes insipidus, otherwise the polyuria would have remained unchanged. The various theories which have been advanced as to the nature of the relation between these two conditions are reviewed, but no definite conclusions are reached.

Chronic Gastritis.—A discussion of the symptoms present in chronic non-alcoholic gastritis with numerous reports of histories is given by G. R. LOCKWOOD (Med. Rec., May 31, 1902). He divides the cases into six classes depending upon the degree of gastric secretion and the presence or absence of atony: (1) Hyperacid cases without atony; (2) hyperacid cases with atony; (3) normal cases without atony; (4) normal cases with atony; (5) anacid cases without atony; (6) anacid cases with atony. In the first class, frequently the only symptoms present are referable to the increased acidity and consist of a burning or gnawing

sensation which is relieved by eating or taking bicarbonate of soda. They are often treated as gastric neuroses. Another class of cases coming under the first heading give symptoms which seem to be entirely due to an increased peristalsis, caused by the irritation of the small intestine by too acid chyme. There is no pain or stomach distress and the symptoms are entirely referable to a persistent diarrhea. The stools have the appearance of small intestine stools and contain neither mucus nor blood. All treatment proves unavailing till an antacid treatment is instituted. Examinations of stomach contents afford the only means of diagnosis. The absence of stomach symptoms in these cases without atony is worthy of note. Nausea and pain are seldom seen, the appetite is normal or increased and vomiting rarely occurs. In the second group of cases, those due to hyperacidity with atony, the symptoms were those of acidity (burning, gnawing), accumulation of gases and constipation. These again are by no means characteristic and the true cause could be recognized only by examination of the stomach-contents. Atony alone and gastroptosis may give the same symptoms. The question of food retention is interesting in connection with gastric fermentation. Gas was a marked feature in nearly all these cases, but it was noticed that when test-meals were withdrawn four and five hours after eating they did not differ from those withdrawn from the non-atonic cases and fermentation could not be subsequently artificially induced. The writer's theory is that Nature endeavors to neutralize the hyperacidity by the swallowing of an alkaline saliva and that the gas in these cases is simply swallowed air. This is corroborated by the fact that gas occurs more frequently in hyperacidity than in low acidity, in which fermentation should more easily occur. Gastritis with normal acidity without atony seldom gives any symptoms referable to the stomach, and even when atony is present there may be no symptoms except that of gas so common with atony. Of the cases of gastritis with anacidity and without atony several presented symptoms which resembled very closely the cases of hyperacidity. Three of them complained of intestinal symptoms, of diarrhea and emaciation, two complained simply of biliousness and several gave no stomach symptoms at all. The author reaches the following conclusions in regard to cases of non-alcoholic gastritis, which are in many respects contrary to the generally accepted ideas: (1) The appetite is good. The few exceptions are observed in cases of advanced atony in which the quantity of food is not well borne and in cases of neurasthenia. (2) Pain occurs in two ways, from acidity, differing in no way from similar cases of nervous hyperacidity, and also due to gas, but the pain differs not at all from that observed in cases of atony without gastritis. (3) Nausea does not occur in relation to meals, but usually appears when the patient is nervous or tired. (4) Vomiting does not occur in the non-alcoholic cases. (5) Unless there be diarrhea the nutrition is good and the patients are not anemic. If diarrhea be present gastric analyses alone will enable a diagnosis to be made, for diametrically opposite conditions may produce the same symptoms. Anemia and constipation are the chief and only symptoms in a great many cases of even well-marked gastritis and their continuance without cause should justify a stomach analysis.

Cryoscopy of Blood and Urine and Its Clinical Value.—An exhaustive review of the present status of the determination of the freezing-point of blood and urine as an index of various forms of renal insufficiency is furnished by H. ROEDER (Archiv f. Kinderheilkunde, May, 1902). One must go back to the physicochemical researches of Van t' Hoff to understand this method,

which was introduced into clinical medicine by Dreser and Von Korany. According to the law of Van t' Hoff, the osmotic pressure of a solution is, like that of a gas, dependent on the number of dissolved molecules and is as large as that of the corresponding gas. Hence the osmotic pressure is dependent on the molecular concentration of a solution. In connection with this it must be noted that substances having the same osmotic pressure have the same freezing-point. Inasmuch as certain substances exist in solution under the form of electrically-charged ions, the latter influence the osmotic pressure in the same way as molecules. From the above facts it can be seen that the determination of the freezing-point of a liquid furnishes an indication of its degree of concentration. Moreover, since the electrical conductivity of a solution is dependent on the number and character of its ions, the determination of their conductivity would serve as one of the methods of the determination of its freezing-point. Only the crystalloid bodies, such as salts, acids and bases, influence the osmotic pressure, the molecular concentration and the freezing-point of a solution, while the colloids such as albumin, dextrin, gelatin and other bodies, have almost no effect upon it. For example, a proteid molecule with a molecular weight of 14,000, taking up 14,000 times the space of a molecule of oxygen, has only the same influence on the osmotic pressure of a solution as the latter. The application of these principles of physical chemistry is of eminent value in the diagnosis of the different degrees of renal insufficiency. If the capacity of the kidneys be impaired, so that they can no longer normally separate the dissolved substances from the solutions, namely, the blood and lymph, that flow through them, then there occur marked changes in the osmotic pressure, hence in the freezing-point of these solutions. Renal insufficiency indicates a retention in the body of the products of metabolism. The constancy of the molecular concentration of the blood indicates that the action of the kidneys which decreases this concentration is neutralized by the wear and tear of the tissues which tend to increase it. In cryoscopic experiments, the normal freezing-point of dog's blood, 0.56° C., has been taken as a physiological standard. Bilateral nephrectomy performed on a dog causes a retention of metabolic products, a rise in molecular concentration and a lowering in the freezing-point of the blood. The resection of one kidney does not lead to retention, if the other kidney be intact. If the latter be injured in any way retention occurs. The effect of renal poisons is generally bilateral and leads to a lowering of the freezing-point of the blood. This is markedly seen in poisoning by cantharides, which affects mainly the blood-vessels of the kidneys, and in the toxic action of aloin, which affects all the renal tissues. Potassium chromate causes the same effect by acting toxically upon the tubular apparatus of the kidneys, while poisoning with potassium oxalate leads to the same result by the production of artificial infarcts. Not only to the physician, but also to the surgeon, the cryoscopy of the blood and urine is of value. According to Lindemann, it is of practical importance in the differential diagnosis between simple albuminuria and that due to inflammatory changes in the kidney.

Pneumococcus Arthritis.—One of the most important contributions which bacteriology has made to medicine is in the differentiation of the various inflammatory conditions of joints. One no longer classes every acute arthritis under the general rubric of "rheumatism," but distinguishes, according to the infective agent, a streptococcus, a gonococcus, a typhoid or other form of inflammation. Pneumococcus arthritis, of which but little is known, has now been carefully

described by Dr. Cole of Johns Hopkins (Am. Med., May 31, 1902), with an analysis of all the cases hitherto described. The cases may be divided into two classes, namely (1) those which appear as complications or sequels of acute lobar pneumonia, and (2) those which precede or occur independently of that disease. The former group includes 34 of the 41 collected cases. In 16 of them but a single joint was affected and 10 of these recovered; of the other 18 with multiple foci only one recovered. The second group of cases is extremely meager, owing to the fact that attention has not hitherto been drawn to the condition and that bacteriological examination is not generally practised. The clinical picture is rather variable. The condition may from the outset resemble a pyemia, with the simultaneous appearance of several scattered foci; or the disease may be progressive, one organ after another being involved; or, rarely, the focus of inflammation may remain single. The disease manifests a tendency to involve the larger joints, though the small joints are not spared. It is very frequently polyarticular (13 out of 41 cases). There is a predilection for joints already the seat of a chronic affection, such as gout, old injury, etc. The effusion is usually purulent, but may be serous. The joint clinically resembles the usual type of an acute articular rheumatism. The general picture and the prognosis, however, depend for the most part on the septicopyemia of which the joint affection is but one manifestation. The mortality is high, especially in the septic cases. When recovery occurs, the course is usually a long, slow one, and ankylosis is apt to result. Treatment consists in freely opening and draining the joint. Mild infection of the smaller joints sometimes recover under conservative management.

SURGERY.

Treatment of Furuncles.—The abortive treatment of furuncles and carbuncles by subcutaneous injections of carbolic acid and doing away entirely with incision, was first proposed over twenty years ago. This method has not been employed to any great extent and its originator, BIDDER (Deut. med. Woch., May 8, 1902) again calls attention to its technic and advantages. The procedure is briefly as follows: The needle (preferably of fairly large caliber) of a hypodermic syringe filled with a 2-per-cent. watery solution of carbolic acid is plunged into the skin at the circumference of the furuncle and pushed on through its center until the point enters the soft tissue beneath. A few drops of the solution are injected and the needle is withdrawn. The latter is again thrust into the abscess in a similar manner at a diametrically opposite point and the remainder of the solution injected. This usually flows out through the opposite opening or through any fistula which may be present. A dry or, when indicated, a wet antiseptic dressing is applied and changed on the following day. The pain disappears for a time and usually returns and lasts for several hours, but the subsequent relief is permanent. In large carbuncles, four or more injections may be made. The advantages of the method are quick healing, with very slight resulting scars.

A New Method for Performing Nephropexy.—Among the numerous operations devised for anchoring a floating kidney, but few have proven satisfactory. The essential principle is believed by H. D. BEVEA (Penn. Med. Jour., May, 1902) to be the avoidance of any direct injury to the kidney parenchyma or capsule through cicatricial change, as must occur in the suturing (Senn) or any capsule-splitting operation. He has devised an operation by which the kidney is maintained in position without any injury to its structures. An incision is made parallel to and about four finger-breadths from the spinous processes, extending $3\frac{1}{2}$ inches down

from the last rib. The intervening fascia, fat, and muscles are separated and the kidney delivered out of the wound. Two soft-rubber drainage-tubes are then passed through openings in the perirenal fascia at the hilum of the kidney on either side of the ureter and vessels. They are made sufficiently long to surround the kidney when it is replaced and to project from the wound. The muscles and skin are sutured around the tubes. A piece of gauze is placed over the wound and the tubes are gently pulled and tied over it. They are removed in three weeks, the wounds healing promptly. This method secures the formation of two connective-tissue tubes which after contraction form two cords encircling the kidney above and below the hilus, with adhesions to the capsule and to the perirenal fascia. Eight patients were thus operated on, with the result that the symptoms were relieved and the kidney was in position two years or more after operation.

Indications for Nephrectomy.—More thorough examinations of the kidneys and their excretions have recently enabled surgeons to perform the more radical operation of nephrectomy with a mortality decreasing from 60 per cent. in 1890 to 20 per cent. in 1899. J. WIENER (Med. Rec., May 10, 1902) enumerates the indications for this operation and reports cases to illustrate the varieties. The cystoscope and ureteral catheterization have been great aids in determining the site of the lesion and also in forming a true estimation of the functioning power of the other kidney. During infancy the indications for operation fall into two groups, congenital malformations and new growths. The former usually consist of some obstruction to the flow of urine and, if severe, may cause a hydronephrosis and the parenchyma may become entirely obliterated. Tumors of the kidney in children occur with maximum frequency during the first five years of life. The disease is usually sarcoma and in most cases tumor is the first symptom. In adolescence the indications for nephrectomy consist in a majority of cases in the presence of a pyelonephritis or of a septic nephritis of hematogenous origin following one of the acute infectious diseases. He reports a very interesting instance in which, after he had opened a perinephritic abscess, the patient did not improve, but still showed signs of septicemia. The wound was opened several times and finally the kidney, which was small and apparently normal, was incised and found to be filled with small abscesses. In adult life the indications for nephrectomy fall into four classes: (1) Hydronephrosis; (2) pyelonephritis and pyonephrosis; (3) tuberculosis; (4) malignant growths. Kidney infections occur either as ascending infections from the bladder or as hematogenous infections. The former are usually secondary to cystitis with an obstructed outflow from the bladder.

Subcutaneous Injections of Paraffin.—New York is not alone in possessing surgeons who have bestowed much time on this new method of correcting facial deformities. WALKER DOWNIE (Brit. Med. Jour., Apr. 3, 1902) cites a number of cases and presents photographs which show such startling changes to have occurred in the configuration of individuals as to make one wonder whether they may not have been molded entirely by human rather than divine hands. Most of the work has been accomplished on syphilitic noses in which the septum had in part or in whole sloughed away. The technic is not in any way involved. Sterilized paraffin, with a melting point of 104° F., is injected from a serum syringe previously heated, the nose being kept hot by warm dry sponges held over it and the needle by having a current of electricity passed through it. The parts must be as carefully prepared as for a regular operation. In one case two drams were injected through a single puncture, the difficulty being

more in limiting the distribution of the paraffin than in effecting it. To this end, digital pressure about the area injected usually suffices, but it may be necessary to second it by an application of celloidin. Immediately after the injection and for about twenty-four hours there is an intense and, apparently alarming pallor of the skin which covers the padded area. Neither pain nor discomfort nor rise of temperature should take place; the pallor is supplanted by an active hyperemia of the part. This slowly wears away, leaving the foreign body below it—an invisible, but invaluable, fragment of the syphilitic's bony system.

Surgery of the Liver.—Operations on this organ have been seldom done on account of the dreaded hemorrhage and the uncertainty of the physiological after-effects. The question of intra- or extraperitoneal treatment after resection of liver substance is discussed by C. Beck (*Jour. Amer. Med. Assoc.*, Apr. 26, 1902). He reports a case in which a large angiomatic tumor of the liver was successfully removed by resection after the application to the stump of two rubber catheter ligatures which were left in place until the fifth and eighth days respectively. No sutures were used and firm adhesions formed between the stump and abdominal wall, leaving a sinus which gradually closed. The author believes the intraperitoneal method is preferable and from his experiments on dogs shows that a portion of the liver can be resected after clamping between the abdominal walls by silk sutures passing through fascia, peritoneum and liver substance, using large flaps of each. He concludes that previous anemization of the part to be amputated is necessary, and that for the support of the ligatures living tissue from the same animal, i.e., fascia and peritoneum, is best suited.

Local Anesthesia for Major Operations.—The increasing use of cocaine and infiltration anesthesia in cases in which general anesthesia is undesirable has led to the report of a great variety of operations done by this means. W. C. Wood (*Brooklyn Med. Jour.*, June, 1902) has devised a simple and easily extemporized apparatus for the infiltration method. The two-way cork of a Potan aspirator is inserted in an ordinary bottle with a rubber tube extending to the bottom. To one arm of the stopper are attached the tube and the needle; to the other is attached the double bulb of a Paquelin cautery. This gives a constant air-pressure sufficient for infiltrating ordinary tissues, but not a heavy scar. The author has done, among others, the following operations: (1) Amputation of the forearm, the infiltration being done in a circular ring above the elbow, about three inches broad. Incisions were then made along the course of the median, ulnar, and musculospiral nerves and ten drops of a 1-per-cent. cocaine solution injected directly into the nerve trunks. The amputation was done above the wrist. (2) Bassini operation for femoral hernia. (3) Suprapubic cystotomy for retention due to carcinoma of the prostate. (4) Ovariectomy for multilocular adenocystoma in an emaciated woman of sixty-seven; the abdomen was opened by a four-inch incision, the cysts tapped, and the pedicle clamped, cut, and sutured. The only pain was due to traction on the abdominal walls. (5) Laparotomy for inflamed intraligamentous cyst, aided by chloroform during the delivery of the cyst. The author formulates the following principles that underlie the use of the method: (1) To produce skin anesthesia, intradermal and not hypodermal infiltration is necessary. (2) Intraneural or paraneural infiltration in the trunk of a nerve is equivalent to complete section of the nerve as far as sensory impulses are concerned. (3) Elastic constriction prolongs the anesthesia. (4) Proper infiltration permits the use of very dilute and non-poisonous solutions. (5) All tissues and organs

of the body, except skin and nerves, when uninflamed have little or no sensation. (6) Morphine should be given as a preliminary to lessen the psychic pain. (7) Local anesthesia can be supplemented when necessary by chloroform or ether for a brief period with less danger than if the latter were given continuously. The author has had no bad effects from cocaine; one grain is considered within safe limits, and up to four grains may be used when it can soon be released by incisions or a constrictor can be applied.

Splenectomy for Malarial Splenomegalia.—Total extirpation of the spleen still ranks among the rare operations, yet it has been amply proven that not only is splenectomy compatible with life, but that certain conditions urgently demand the operation. F. CARINI and R. GOMEZ (*Gazz. degli osped.*, May 11, 1902) report a successful splenectomy in a case of splenomegalia with ptosis of the organ and torsion of the pedicle, basing upon its favorable outcome and upon the experience of other operators arguments in favor of the measure. It is concluded that the operation is a comparatively safe one, causes but slight and transitory disturbances in the blood crisis, and does not materially diminish the defensive power of the organism. It is especially indicated in traumatism, malaria, and movable spleen, especially if complicated with torsion of the pedicle. Instances have been reported of its application to other grave affections such as malignant tumor. Aside from its advantages in relieving the patient of the discomfort of an abdominal tumor, splenectomy is considered an important prophylactic measure in view of the fact that hepatic cirrhosis depending upon malarial splenomegalia has not infrequently developed.

Action of Röntgen Rays upon Neoplasms.—Sufficient work has now been done to demonstrate the value of X-rays, especially upon integumental growths. C. Beck (*N. Y. Med. Jour.*, May 24, 1902) says that the most characteristic difference between ordinary burns and the changes produced by the Röntgen light is the fact that the latter do not manifest themselves before the lapse of a period of incubation, as a rule after about two weeks. Examination of the changes shows a disturbance in the walls of the blood-vessels just as in ordinary burns. The peculiar chemical influence of the Röntgen light in the tissues is so exerted that the nutrition of the cells is impaired. A hair extracted after prolonged irradiation is found to have lost its structure. It ends in a point instead of showing a root. There is a thickening of the tunica intima of the small vessels, a process which tends to narrow their lumen. Fibrous tissue in reticular arrangement is deposited. The tunica muscularis and adventitia undergo the same change. The tissue change taking place in neoplasms is also of the nature of a chronic inflammation. The nutrition of their superficial strata is disturbed, the cells starve and if overirradiation be continued necrosis may result.

Treatment of Cholelithiasis.—The necessity for surgical interference for the radical care of biliary calculi has been appreciated only during very recent years and the dangers attendant upon palliative measures are by no means generally appreciated, yet H. LILIENTHAL (*Med. Rec.*, May 31, 1902) compares this condition with that of appendicitis, in regard to both the uncertainty of the outcome and the necessity for careful watchfulness. Among the consequences of the presence of gall-stones he mentions carcinomatous degeneration of the gall-bladder or passages, ulceration and infection of the gall-bladder, empyema, gangrene and perforation of that viscus; cholangitis, extending into the finer ramifications and usually proving fatal, and cirrhosis of the liver. If a person has had one at-

tack of biliary colic it is necessary to be on the lookout for one of these complications and should they arise operation is usually indicated. At the present time there is a tendency toward doing a radical operation, cholecystectomy, wherever it is possible, for cholecystotomy may result in only temporary relief and the dangers of a second attack are manifold. Just as in appendicitis the object is to remove the entire organ and prevent recurrence, so in biliary colic the tendency is now toward completely extirpating the organ. Perfection of operation is lessening the amount of shock.

Endovesical Operations.—One of the present-day "Grenzgebiete" between medicine and surgery which seems to be rapidly passing into the domain of the operator is the field of bladder troubles. The introduction of local anesthesia and of the endovesical method of procedure has undoubtedly gone a long way toward putting the surgeon in control of cases which had previously belonged distinctly to the internist. A paper which is both modern and conservative in tone has been contributed by PROF. SCHMIDT of Chicago (Medicine, June, 1902) on the technic and possibilities of endovesical surgery. The question of instruments is of course all-important, and a great deal of labor has been expended in the production of an efficient operative cystoscope. The older type of instruments, as those of Nitze and Caspar, suffer from the drawback that the operative beak covers to a great extent the field of operation. Their armamentarium, however, is very powerful, and allows of very energetic and extensive procedures. The Kolischer cystoscope has the advantage of affording a direct and free view of the field; it is armed with the galvanocautic snare and with curettes, scissors, and forceps. Its usefulness is somewhat limited by the small size of the mechanical appliances. Another important question is the one of anesthetics, not only on general principles, but because a large number of individuals with bladder affections also have diseases of the kidneys. It is, therefore, fortunate that the majority of endovesical operations can be done under local anesthesia. Cocaine should never be used in the bladder; instead, the author recommends highly-concentrated antipyrine solutions, which act efficiently though slowly. The urethra must be cocainized. Sensitiveness of the prostatic urethra must be overcome by a rectal suppository of morphine. The conditions for the relief of which endovesical operations are indicated are as follows: Granulating cystitis, ulcer, fissure, certain forms of tumor, varicosities, and some foreign bodies. Granulating cystitis is a not uncommon condition, which, according to the author, fails to respond to ordinary treatment; it yields rapidly, however, to endovesical curettement. The operation is followed by an injection of iodoform emulsion, which is left in the bladder. Fissures are cured by a single cauterization. Ulcers, which are very frequent and extremely rebellious to other forms of treatment, are cured by a single thorough curettement. The treatment of tumors forms a very important chapter in endovesical surgery. The proper limitations of this method in cases of tumors are stated as follows by the author: The tumor should show no signs of malignancy; it should not be so large as to interfere with the ease of manipulating the cystoscope; it ought to be pedunculated, although tumors with a large base may be removed in sections. Varicosities of the superficial veins, which occasionally give rise to severe hemorrhage, are easily removed with the galvanocautery. Finally, the operative cystoscope is of enormous importance in the after-treatment of litholapaxy. By means of its forceps the small splinters may be crushed and removed and the irritant eliminated.

PEDIATRICS.

The Feeding of Children during Their Second Year.—This is a period of adaptation to the digestion of the elements of adult food, writes T. S. SOUTHWORTH (Archives of Pediatrics, May, 1902) and the time of tooth-development. If the child has not been weaned at twelve months, it should be allowed some breast-milk through the hot weather, though much of its food should be given by bottle. One of the first additions should be well-cooked and strained gruel or jelly of oatmeal, wheat or barley. Constipation may be relieved by oatmeal, while diarrhea, eczema or intestinal indigestion would contraindicate it. Soon a cereal with milk or cream may be given regularly each morning, constituting breakfast, salt being preferable to sugar. Rice may be given later in the day. Cow's milk should, in any case, be the basis of feeding for the entire second year. The bottles are often discarded as soon as possible, because of dangers from lack of cleanliness, but boiling water and care will overcome this objection to the use of the bottle, and a child will often take more nourishment from a bottle than from a cup. The milk is also taken more slowly and regularly from a nipple. The 12-ounce bottle should be substituted for the 8-ounce for children over ten months of age. A general schedule for diet is as follows:

Half past seven a.m., breakfast, including milk; 11 a.m., bottle of milk with crust or zwieback; 2 p.m., dinner, with rather less milk, as the other food is increased; 6 p.m., supper, including bottle of milk; 10 p.m., bottle of milk. Soft-boiled eggs may be given at intervals, or bread in the form of crust or zwieback, bread and egg, or bread and milk, or orange-juice, two or three stewed prunes with the skins removed, or the soft part of baked apple. About the middle of the year it is safe to allow fresh green peas, asparagus tips, tender string beans or spinach mashed and passed through a sieve, and later stewed celery, tender boiled onions and baked mealy potatoes. Beef-juice may be given even during the first year, and in the second year may alternate with chicken- or mutton-broth. Toward the middle of the year, scraped rare pulp of steak, roast beef, mutton or mutton chop, and finely-minced white meat of poultry may be added to the dietary, except for children of nervous, rheumatic or gouty parents, or with strongly acid urine or eczema. Candy and sweets cannot be defended on the grounds that sugar is necessary to a child. The list, then, is milk, eggs, cereals, bread, meat-juice, scraped meat, and certain vegetables and fruits.

Salaam Spasm.—After reporting a case of rhythmical nodding movements of the head in an infant, fifteen months of age, L. G. SIMON (Revue Mens. des Maladies de l'Enfance, May, 1902) sums up the characteristic traits of this neurosis. It arises in infancy, always before the twentieth month, without apparent cause. It consists of anteroposterior oscillations of the head, occasionally with a lateral inclination and sometimes with accompanying contractions of the muscles of the trunk and shoulder. The movements are rapid, regular, of small amplitude, and cease completely during sleep. There is a rapid nystagmus, most frequently bilateral. It is to be distinguished from other forms of nutatory spasms, namely, those pertaining to senility, the incoherent nodding of chorea, the rhythmical nodding of hysteria, or of rhythmical chorea. It is not comparable to the movements of the head seen in cases of certain cerebral tumors, or as the sequela of acute non-tuberculous cerebrospinal meningitis. Two varieties of spasmus nutans are to be distinguished, from the point of view of their evolution, prognostic value, and perhaps from the point of view of their nature. In the

first group are found infants who later, after the disappearance of the nodding spasms, become true epileptics. In these cases the nodding movements may be considered one of the numerous forms of petit mal which are comparable to epileptic vertigo. To this variety belong the spasms that come on in isolated attacks, two to ten or more per diem, particularly when they are accompanied by loss of consciousness, paleness, staring of the eyes and dilatation of the pupils. In the antecedents of the patients of this group there are usually found cases of alcoholism or of epilepsy. They are greatly improved by the bromides. The cases that belong to the other class get better in from two to four months or more; their cure is complete and they never become epileptics. The attacks are not isolated, there are no mental disturbances, and there is no hereditary taint. Rachitis, acute disease or the absence of light may give rise to this form of spasmus nutans.

Free Hydrochloric Acid in the Infant Stomach.—

It is seldom fully realized that the reason why some children do very well upon the same diet that disagrees with others depends largely upon the amount of hydrochloric acid which is secreted. A. S. BLEYER (St. Louis Cour. of Med., Apr., 1902) shows that not only is there considerable variation in the amount of acid found in the stomach, but that much also depends upon the kind of food ingested. A deficiency in the secretion of the acid results in intestinal disturbance, highly suggestive of bacterial invasion, with fermentation and the establishment of a condition so very common among artificially-fed infants. It has been shown that in breast-fed infants the appearance of free hydrochloric acid is precocious, which is a very suggestive explanation for the immunity against intestinal derangements enjoyed by such infants. Cases are reported giving a very interesting explanation for certain instances of persistent vomiting. Various kinds of food were tried without benefit till the proteids were increased, after which vomiting was at once allayed. Examination of the stomach-contents showed high percentages of hydrochloric acid which required neutralization. In every case of infectious enteritis, it is advisable to examine carefully the condition of the gastric juice and when such is lacking in hydrochloric acid the caseins should be carefully diminished until sufficient acid is permitted to exist free in the stomach to stay the invasion; and, on the other hand, when hyperacidity is present and vomiting is persistent and excessive, the caseins should be increased till the acid has expended its force upon them and has been given a chance to do its physiological duty.

Nitrate of Silver and Thrush.—If lavages with alkaline fluids and applications of borate of soda correct thrush in the majority of cases, it is nevertheless a fact that often an obstinate case is found which resists this simple treatment. G. E. LA VLADIMIROV (La Sem. Méd., 1902, No. 17) has found that when such severe cases are encountered, they will usually cease after local applications of a solution of silver nitrate, 2 per cent. in water. He begins by detaching with a dry swab of cotton or linen, all possible plaques of thrush. If these be very adherent their tearing off may cause a little bleeding, sometimes considerable, which can easily be controlled by making pressure with a small tampon of cotton. It is necessary to separate all the plaques. After this the application of the silver is made. The child is laid upon its side and into its mouth is passed a pair of forceps bearing a plug of cotton soaked in the silver solution. After a moment another pledget of cotton filled with chloride of sodium is used in order to neutralize the excess of the silver. In order to avoid movements of suction which the child may make when the forceps are introduced, the jaws are separated by

passing the finger into the mouth on the opposite side and resting it between them. Under the action of the silver nitrate the mucous membrane becomes white in color, which permits one to see whether the forceps have been applied to all parts of the mouth. The treatment should be repeated once a day, whereas the topical applications of borate of soda and other drugs of the same class must necessarily be used several times through the day—which is an inconvenience because it is often difficult to subject the child to mechanical irritation at such frequent intervals. Such disturbances may have a tendency to favor the morbid process (Epstein). One to three washings with the silver nitrate have been sufficient, in the experience of the author, to bring about a complete cure of thrush even in cases in which all other remedies have totally failed.

Results of the Crédé Treatment of the Newborn.

—A recent writer declared that in Munich 34 infants out of 962 suffered from blennorrhea, despite the treatment of the eyes at birth, according to the method of Crédé. E. RUNGE (Berlin klin. Woch., May 19, 1902) compares these figures with statistics which he collected at Göttingen during the past five years. One thousand newborn children were treated. Not one had an early infection of the eyes, and in only a single case was there a later infection, occurring at the beginning of the second week. Even in this case the infection ran a rapid and mild course; the inflammatory process disappeared in forty-eight hours. Including figures collected at Göttingen by Schallehn during a previous period, Runge is able to report 1,917 cases without a single early infection. On two separate occasions groups of pregnant women were examined at the Göttingen clinic for gonorrhea. Of the first group, 25 per cent. were found to have infections; of the second group 20 per cent. were gonorrheic; hence the opportunities for infection of the newborn were frequent enough. Runge regards the effectiveness of the Crédé procedure as unquestionable. A 2-per-cent. silver-nitrate solution does occasionally produce a mild conjunctivitis. A 1-per-cent. solution has not this disadvantage and is just as successful a disinfectant as the stronger solution.

Alcoholism in Children.—The effect of alcohol on the healthy child's organs is a varying one, depending on the concentration, quantity and time of administration. Acute alcoholism is occasionally seen in children, and according to J. GROSS (Archiv f. Kinderheilkunde, May, 1902) it presents symptoms similar to those seen in adults. Two patients seen by the author were brought to the hospital unconscious, with tonic and clonic convulsions, which were controlled by enemata of chloral. The diagnosis was made by the odor of the breath. The disappearance of the convulsions was followed by deep sleep for several hours. One of the patients, a child three years old, on awakening, asked the nurse for some brandy. Acute alcoholism in children is thus seen in a more intense form than in adults, presenting convulsions which are not seen in the latter, and thus showing a greater toxic effect on the central nervous system. The use of small doses of alcohol in children is stimulating to the central nervous system, but this stimulation is only apparent, for paralysis invariably follows it. The temperature of the body is lowered only by large doses of alcohol, which are highly injurious to the organs of the body. Children are given small doses of alcohol for a long time by parents who from a false point of view think that alcohol strengthens the body. This is sometimes given even during the nursing period. The quantities given vary from two to five grams or more of cognac or tokay, concentrated or dilute. From the stimulation of the

gastric mucosa, a dyspepsia is produced, which may go on to the production of a severe gastritis. These conditions may also result from the use of beer and light wines. Among the higher and middle classes, parents give their children wine, beer and cognac, while among the poorer classes, brandy and whiskey are usually given. Cases of alcoholic habituation are seen in infancy when physicians order or sanction the use of alcohol in sickness without regard to the presence or absence of fever, or the weakness or strength of the heart. Cirrhosis of the liver is frequently observed as the result of the continuous use of alcohol. The author observed four of these cases in which malaria and lues had been excluded. The early use of large quantities of alcohol has a profound effect upon the nervous mechanism, cases of epilepsy, chorea and severe neurasthenia having been traced directly to the use of this drug. Heredity plays a large rôle in the production of alcoholism in children. Cases are described in the literature of children who, removed from their alcoholic parents to favorable surroundings, in the course of time betrayed unmistakable propensities for alcohol. According to Demme, among the offspring of alcoholics the mortality is extraordinary; those who survive constitute a sad class of idiots, epileptics and otherwise neurotic individuals; only a very small proportion become useful members of society. In spite of the baneful results of the vicious use of alcohol in childhood, this drug has distinct therapeutic uses. In the cardiac asthenia accompanying diphtheria, measles, scarlet fever and typhoid, in the collapse associated with intestinal diseases and with severe hemorrhages, alcohol is of peculiar value. Moreover, it has been shown by Binz that in the failure or in the total cessation of nutrition the administration of alcohol tends to prevent the destruction of the tissues. Given greatly diluted in water, it is rapidly broken up and totally consumed in the tissues with the production of carbon dioxide and water. Hence in conditions of permanent disturbances of nutrition, in cases of rickets, scrofula, tuberculosis—in general, in all chronic diseases with lowering of the vital resistance—alcohol may serve, not as a nutrient, but as a powerful preserver of the tissues.

PHYSIOLOGY.

Relation between Chemistry and the Physiological Action of Morphine.—The large size of the morphine molecule leads one to assume that not all the atoms of which it is composed take part in its physiological action, and it has been the attempt of E. VAHLEN (Arch. f. exp. Path. u. Pharmak., Vol. 47, No. 5 and 6) to isolate that physiologically interesting nucleus upon which most of the efficacy depends. The difficulties of research in so comparatively new a branch of pharmacology are obvious, since it is only rarely that by the breaking up of a molecule components are obtained which resemble the mother-substance in effect. It is more often the case that one common ingredient is found in a number of drugs of the same action and close chemical relation, as in the case of the purin obtained from caffeine, theobromine and allied alkaloids, upon which most of their action depends. The author started his experiments by assuming that the phenanthrene nucleus contained in morphine was the chief carrier of its function and, since the addition of nitrogen, which is an important element in most alkaloids, seemed desirable, discovered a synthetic combination of the two, named by him morphigenin. Chemically it is oxyamidophenanthrene and it seems, indeed, as if it closely resembles morphine physiologically—so much so that a readily soluble derivative has been brought on

the market under the name of epiosin. Other products also narcotic in effect, possessing the same nucleus, could be obtained. Thus, a number were formed by the action of zinc chloride on morphigenin chloride and several by combining sulpho-acids with morphigenin, but no stable compounds resulted from all these experiments, which fact diminishes their importance. Epiosin itself was manufactured by heating 1 gram of morphigenin chloride with 3 grams of sodium acetate, 12 cubic centimeters of absolute alcohol and 1.5 cubic centimeters of an aqueous methylamin solution, 33 per cent. in strength, for two hours in the water bath, with subsequent evaporation and extraction with chloroform. Chemically it is a methyldiphenylenimidazol; it melts at 195° C., and is readily soluble in alcohol and chloroform; its chlorides are soluble in water. Injected into frogs the latter paralyzed the functions of the cerebrum and later those of the spinal cord; when dogs were employed, there were a blunting of the sense of pain not leading to sleep, a sluggish corneal reflex, involuntary defecation, urination, and salivation, a slight rise of blood-pressure, with slowed and shallow breathing. Unfortunately, the pupillary changes were not recorded, but there was no marked miosis. With larger doses, convulsive twitchings were observed. Experiments on man showed a ready relief of pain, with sleep, and no after-effects followed. The dose of epiosin chloride is 0.1 to 0.13 gram and 0.12 gram, corresponding to 0.03 gram of dionin.

Action of Digitalin by Exocardial Application.—Stimulated by the different results which certain authors obtained by applying helleborein to the exterior of the heart than when it is allowed to effect the interior of that organ by its presence in the circulating fluid, A. BENEDICENTI (Arch. f. exp. Path. u. Pharmak., Vol. 47, No. 5 and 6) has repeated the experiments with the drugs of the digitalis group. When digitalin is applied to the normal heart of a frog, for a time there is no change, except a slight increase in the pulse-rate. Soon, however, this sinks very markedly and, while the pulse-volume reaches its maximum, the slowing increases until complete stoppage occurs for a short period, soon followed by a series of pulsations, then again by stoppage; then, instead of groups, single contractions occur, interrupted by long periods of inactivity which gradually increase up to cessation of all heart-action in diastole. The same phenomena were observed when strophanthin, scillain, convallamarin and other members of the digitalis group were employed instead of digitalin. In case the poisons were applied both to the inner and the outer side of the heart there was also noticed a tendency to a systolic position of the heart. The combined application of digitalin and atropine gave the same pulse-curve as when digitalin alone was used. Further experiments were made to ascertain the effect of an increased temperature on the inner and outer surface of the heart. When the outer surface is rendered warmer, the pulse-volume first diminishes, then increases with an increase in the pulse frequency. Finally the diastoles increase and the systoles become more and more weak and incomplete. Conversely, if the rise of temperature be permitted to act upon the heart cavity, there is simply an exaggerated action of the heart, which beats regularly for hours, and only gradually do the systoles become incomplete till the heart stops in a half-systolic position. All these experiments prove a different arrangement of the inner and outer muscular fibers or a different innervation of the two surfaces.

Decomposition of Iodides in the Body.—To explain the splitting-up of iodide of potassium in the body, A. STEPANOW (Arch. f. exp. Path. u. Pharmak., Vol. 47, No. 1 and 2) analyzed the different organs for

nitrites with sulphanic acid, α -naphthylamin and acetic acid. They were found present in the white substance of the brain, lungs, bronchi, parotid, duodenum, medulla of kidney, suprarenals, testicles, and in the parotids, while they could not be detected in the gray brain-matter, liver, stomach, spleen, cortex of kidneys, muscles, or in the blood. The author comes to the conclusion that the nitrites, in conjunction with the carbon dioxide of the tissues, play an important part in decomposing the iodides, but that other unknown factors are also at work.

Color-Reaction of Santonin in Urine.—In the course of a urinalysis in the case of a child treated with santonin, E. CROUZEL (Jour. d. méd. d. Bordeaux, May 18, 1902) noted that the red color produced by alkalis in the presence of urine containing santonin was most intense when concentrated calcium hydrate was the reagent employed. This reaction was found to be of extreme delicacy; and the administration of santonin, .10 (gr. ij), to an adult sufficed to produce the characteristic coloration with calcium hydrate in all the urine passed during sixty hours. This coloration of the individual specimen lasted about half an hour, the normal color returning at the end of that time. Solutions of santonin in water or urine do not give this reaction with calcium hydrate. The color-reaction of santonin which has been modified in the body and eliminated through the urine is, in the author's opinion, of interest from the urological and toxicological point of view. It may also be found valuable in physiological experiments and in experimental medicine; for example, it might be used to determine the functional permeability of the kidney. Thus might it be variously applied to the diagnosis of diseases of the kidney.

Lichen Planus as a Vesicular Affection.—That this disease may be accompanied by a bullous or vesicular eruption is the observation of C. W. ALLEN (Jour. Cut. and G.-U. Dis., June, 1902) and he believes that it is not due to the administration of arsenic, as usually supposed, but that it is an essential part of the lichen planus lesion. The vesicle is probably due to some condition of a vitiated coil gland secretion, for the greater proportion of cases and recurrences are noted during warm weather when the sweat-glands are active. The best form of treatment he found to be curettage of the lesions as soon as they appeared.

GENITO-URINARY AND SKIN DISEASES.

Mercury in the Cure of Syphilis.—The widespread extension of syphilis, acquired and hereditary, is a well-recognized fact among medical men, and the disease is regarded as the active or contributory cause of a large number of other conditions. It is therefore of primary and essential importance that when it manifests itself it should be suitably treated. LEREDDE (La sem. méd., 1902, No. 17) lays down the following principles: (1) It is necessary to treat severe symptoms of syphilis by injections of mercury alone. (2) It is necessary to increase the dose of mercury so given until the symptoms are influenced by it. The arguments by which he concludes that the injection of mercury is better than any other means of administration are, briefly, that by it the quantity given is absolutely known, a fact not determined in administering it by inunction or by the stomach, because no one can tell how much will be absorbed either by the skin or by the digestive apparatus. The therapeutic effect of injections of mercury depends somewhat upon the dose of the drug given and also upon the form. It must be recognized that the disease in one person will not be influenced by the same quantity as would cure another. Similarly,

in a given patient the dose must be slowly raised until the desired effect is reached. As a preventive of the bad results of mercury he recommends that early in the treatment of syphilis every patient should be sent to a competent dentist, who will cleanse and fill his teeth and instruct him in the care of his mouth. In the opinion of Leredde the starting-point of all mercurial inflammations of the mouth is bad teeth and bad oral hygiene. He states this very emphatically and believes that a dose which causes trouble when the mouth is dirty and the teeth are decayed will cease to inconvenience when these conditions are removed. The present method of giving mercury by injection is usually a single dose of large size, given once or twice a week, but this authority states that in order to gain complete and rapid control over the serious signs of this dreadful disease it is better to give a smaller dose every day for a short time, so balanced as to stop short of causing chronic mercurial poisoning. As examples of what he means he states that if the stronger salts be employed (the cyanide or sublimate) doses of 0.03 or 0.04 centigrams should be given; of the weaker salts (benzoate or biniodide) practically twice the above quantities may be employed. This observer believes that the influence of mercury upon syphilis is underestimated by the profession at large, the quantity given, at least in grave cases, is too small, and therefore the results obtained from it are not so satisfactory as they should be.

Soft Chancre and Refrigeration.—A recent addition to the therapeutics of certain skin lesions has been the application of refrigerating mixtures, notably to such diseases as lupus and its correlatives. Recently A. BRANDWEINER (La sem. méd., Apr. 30, 1902) has extended this therapy to soft chancres, employing specifically either a pure ethyl chloride, which boils at 2° C., or a mixture of it with 15 per cent. of methyl chloride, which will boil at 11° C., and therefore produces a more rapid, active and penetrating refrigeration. The technic which he follows is this: The chancre is exposed, freed of all crusts and secretions by a wash of bichloride of mercury or of other antiseptic, carefully stretched wide open and then sprayed with the chloride of ethyl or with the mixture, exactly as if local anesthesia were to be produced. In order to hasten the evaporation and refrigeration, a hot thermocautery may be passed over it at a distance of an inch or two. By this hastened evaporation a thick, somewhat persistent frost appears which is really the product of the congealed drug. The entire procedure lasts only from three to five minutes, unless the diseased area be very extensive or rebellious to treatment. The procedure must be repeated in ordinary cases once or twice a day, and in the more difficult and fractious ulcers from two to four times in twenty-four hours. It is the exception to see any bad after-effects, such as gangrene of the skin. After each refrigeration it is advisable to powder the sore with some such medicine as iodoform and to employ at once an ordinary dry dressing. Usually, after two to four applications, occasionally after one only, it is possible to see the floor of the ulcer covered by fine healthy granulations. In forty cases treated in this manner Brandweiner notes seven failures. This simple process must not be confounded with a similar one which Unna of Hamburg suggested, which comprises excision of the ulcer after refrigeration by chloride of ethyl. Anatomical difficulties often prevent the use of this method. Simple refrigeration, however, accompanied by dressing, meets an obstacle only when the ulcer is on the inner surface of a long phimotic prepuce. A free dorsal incision, however, will permit its use even if such a condition is present.

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THE MEDICAL EXPERT AND THE JUDGE.

THE California Supreme Court does not agree with the ordinary denunciations of medical testimony by omniscient judges with patent medicine and "Christian Science" bias. Judges are too prone to ignore the principle that expert evidence should go in under the common law principle for what it is worth, and too often it is because of this tendency that quackery thrives like a upas tree under the fostering breath of judicial infallibility.

The California Supreme Court sacrifices these infallibilities when it says (*in re Blake's estate*, *Journal Amer. Med. Assoc.*, June 21, 1902) that the law was correctly stated in the following instruction given to the jury: "The law recognizes and receives the testimony of duly qualified medical expert witnesses. Such an expert must of course be qualified according to law. A mere opportunity afforded for observation will not constitute a person an expert. He must have been educated in the business about which he testifies or it must be first shown that he has acquired actual skill and scientific views concerning the subject-matter involved. When such experts are, however, duly qualified, the law recognizes and receives their testimony, and in arriving at a conclusion concerning the issue involved in this

case (a contest of will case in which the mental capacity of the testator was challenged) you may take into consideration their testimony and award to it such value as in your judgment it deserves." But, unfortunately, the judge went further and showed the jury that he had a very poor opinion of testimony of this character. The jury was told that it was unsatisfactory and the reason why it was so. It was further told that it was unreliable and the reason why it was so. Not only this, and to make assurance doubly sure, it was told that opinions of experts were not entitled to so much weight as facts and that such opinions based upon the same supposed conditions were often diametrically opposed to each other.

The Supreme Court stated that while the opinion of the judge might have reason to support it, it was not proper for him to give his opinion to the jury. Neither was it proper for him to give the jury in his instructions an argument as to the reasons why such evidence in his opinion was unreliable and unsatisfactory. The code makes the testimony of physicians admissible in such a case. The jury may determine whether or not the opinion is reliable. The opposite party is given full opportunity to cross-examine and show the reasons upon which the opinion is based. He is further given full opportunity to argue before the jury the credibility of such evidence and the jury will thus probably arrive at the truth. There is no law that declares that the testimony of experts is unsatisfactory and unreliable. If so, the law should not allow it to be given in evidence.

We fear that the average judge fails to remember that under the system which must obtain in courts of justice in English-speaking countries no expert can tell the "truth, the whole truth and nothing but the truth," since objective examination without a clinical history does not and cannot reveal the truth, the whole truth and nothing but the truth. No absolute medical diagnosis is possible without a subjective factor. In law this subjective factor unless sworn to must be received, under the rulings of many courts, as hearsay evidence. In every examination for diagnosis and treatment subjective factors have to be received. The difficulty has been solved by Supreme Courts drawing a difference between examination by the family physician and examination by the expert. This is an unconstitutional intrusion on the province of the jury. In most instances judges denounce experts because expert knowledge does not agree with the prehistoric folklore of the judge acquired ere he obtained

legal training and retained despite it. One judge denounced experts because they asserted that a man might be insane and still go through a marriage ceremony with seeming intelligence. In denouncing such an expert the judge showed a remarkable ignorance of the text-books of his profession and of the most recent decisions of the upper courts of his state.

The position of the expert in the English common law, like the position of the judge, must be that of an adviser not of a dictator, as under the Roman law which obtains on the continent of Europe. Under the Roman law the State is supreme; under the common law the rights of the individual freeman are supreme. It was this feature of the judicial common law that made judicial torture (the disgrace of the Roman law) always illegal in England. These principles of individual freedom will always obtain in English-speaking countries and no reform of the alleged abuses of expert testimony is possible which fails to take them into account. Most of the abuses actually result from the attempt to make political, social, and corporation factors dictators in forensic medicine.

THE TREATMENT OF AMEBIC DYSENTERY.

AMEBIC dysentery, of which the first case was described in this country so recently as 1890, has latterly assumed a rôle of considerable importance among the various intestinal diseases. At Johns Hopkins alone about 300 cases have been treated within the last twelve years. Not only have epidemics of the condition occurred among the native-born children, but there has recently been an enormous importation of cases from the tropical acquisitions due to the Spanish War, notably from the Philippines.

The treatment of this condition is not everything that might be expected. Some cases seem to yield readily to tonic measures, combined with almost any of the drugs employed in other forms of colitis, *e. g.*, calomel, or ipecac. There are other cases which absolutely resist these simple measures. For them, the most successful management has seemed to be the use of antiseptic solutions locally applied. Delafield has recommended weak solutions of corrosive sublimate in irrigation. At the University of Johns Hopkins, which has set the standard in the diagnosis, the general study and the treatment of the condition, solutions of quinine are believed to give, on the whole, the best results of any treatment as yet recommended. The drug is one which early

found favor as an antiseptic in the days of the Listerian era in surgery, and which even recently has found ardent advocates as an application to wounds. More probably, however, its effect in amebic dysentery is in some degree specific, serving, as Lauder Brunton long since showed, to inhibit the mobility of protoplasm in the protozoan forms.

Notwithstanding their general utility, however, rectal enemata of quinine are at times contraindicated or rendered impossible by the severe pain which they produce, and by the not inconsiderable danger of perforation in the cases with pronounced ulceration of the lower bowel. Under the latter circumstances, another drug has recently been found to act with brilliant success by Myer of the Washington University. This drug is santonin, long used as a parasiticide. This is given in doses of three grains, combined with sodium bicarbonate, three or four times daily. The drug has shown itself capable of relieving very malignant forms of the disease that had previously resisted all the regular methods of treatment. With this addition to our armamentarium, we are now in a fairly satisfactory position with regard to the treatment of amebic dysentery in all its varieties.

ANTHROPOLOGY AND THEOLOGY.

CERTAIN of the faculty of one of our well-known divinity schools recently applied to the officers of the university of which it is a part for the inauguration of courses in anthropology and criminology. This would seem to be an important and an encouraging sign of advance, and we welcome it as such.

To the faculty of this theological school, at least, it has evidently become apparent that their students are at present learning too little about men, about the individuals, men, women, and children with whom even the clergyman's duties are really concerned, however often his imagination, in some cases, may be in the skies.

As things are now, it is the medical man and not the theologian who truly knows mankind and how truly akin to "dust" mankind is in the greater mass and substance of his living. The Gospel minister knows by his profession man's moral nature, but sometimes only in such a one-sided way that his knowledge leads him into falsely extravagant dogmatism and into cruel and unacceptable notions of divinity and of the highest good. But teach the clergy what the broad-viewed medical doctors know of the com-

mon human nature, and the former will thereby become in living fact as now in deceptive name and theory the "shepherds" of mankind.

The physician as anthropologist understands that an individual's nature, apparently dual in its two aspects of body and mind, is really one. He knows well that a man's instincts, sometimes leading to "sin," are as really a part of that individual's organism as is his liver or his blood. He never for a moment loses sight of the important fact that two great instincts in particular, those of self-preservation and of race-continuance, are grained in every cell and tissue, every organ of the body. He expects, then, as part of life in its present stage of evolution that all those many crimes will be committed which have their origin in these two instincts, organic habits strong as life itself. And more, the anthropologist knows that the passions, as habitual emotions, have their locus in every portion of the bodily frame, ingrained, as important elements of its manifold function.

Thus many "sins" mean to the physician something quite different from what the divinity student is led to believe they are. The excuse which the sinner often really has is ignored by the clergyman oftentimes or at least is unappreciated by him. Instruction in the elements of anthropology would present these mitigating factors of wrongdoing in all their force and variety, and thus inevitably would liberalize the deadening dogmatism of some theological creeds.

But there is something else this instruction would do which would be of yet greater value to the clergy and to their work—it would put them into greater sympathy with actual men and women. This is the simple secret of the fact that to-day perhaps the Salvation Army is doing proportionately more good than all the churches, for the preachers in this work are of the people and know their nature, comprehend their emotions and their instincts, part of man, and admit their often valid excuses.

Let the students of divinity, then, learn as thoroughly as they can be taught it that the multiform and often overwhelmingly common crimes of a sexual nature, for example, are sometimes not sins to be flatly and dogmatically denounced as deliberate acts of evil willing, but, on the other hand, that they arise in instincts above which men must be helped to rise and not damned by men because of them. Let the students of divinity learn with all the possible speed of certain science that the passions of rage and jealousy, and all the

other emotions which give rise to many crimes of violence against the person, are matters of the viscera and the muscles and the brain, and that these in a low stage of moral courage, or even of intellect, may entirely dominate even a powerful will. Clergymen should know, too, as others should, that the paranoiac and the epileptic may commit deeds which few sane men could compass, and that advancing medical science marks these off from the normal others ever more clearly. In short, let theology and medicine get closer together, that the clergymen may learn things as to man's truer nature which the broadly informed or widely experienced physician learns. Physiology and physiological psychology and anthropology have much to teach the preacher, young or old, who would place his guiding influence over men on the only possible substantial basis—that of impartial acquaintance with the human beings of this wondrously complex world as they really are, "compounded of both flame and clay" which forever interact.

ECHOES AND NEWS.

NEW YORK.

Physicians' License Examinations.—Examinations for license to practise medicine in this State will be held in New York, Albany, Syracuse, and Buffalo on September 23 to 26, 1902; January 27 to 30, 1903; May 19 to 22, 1903, and June 23 to 26, 1903.

New York State Medical Association.—The annual meeting of the New York State Medical Association will be held at the Academy of Medicine, in this city, October 20th to the 23d, inclusive. The Committee has nearly completed the literary program. Besides contributions from members, papers from such recognized authorities as Drs. Mayo, Oschner, Stengel, Thayer, and others, will be read. The social features of the meeting have been carefully considered. The Committee has decided that Tuesday evening, heretofore taken up by a literary program, shall be free to the members and guests to seek their own recreation. The annual dinner and reception will be held on Wednesday evening, October 22d. The innovation last year of admitting ladies to this function met with such universal approbation that the Committee feels justified in urging their attendance this year, and arrangements will be made for their presence and comfort. Luncheons will be served at the Academy of Medicine as formerly.

Bequests to Charity.—Mrs. Mary J. Walker, another of New York's unknown millionaires, died last week, leaving \$500,000 to various charities. The following medical bequests are made: St. Luke's Hospital, \$100,000; Society of St. Johnland, of St. Johnland, L. I., \$50,000; Home for Incurables, Fordham, \$25,000; Colored Home and Hospital of the City of New York, \$25,000; New York Institution for the Blind, \$25,000; New York Society for the Relief of the Ruptured and Crippled, \$15,000.

Cottage Reformatory Plan.—Plans for a model village, overlooking the Hudson and promising to be one of the most unique communities in America, were

made on Tuesday evening at a meeting of the directors of the New York Juvenile Asylum. A tract of 278 acres of farm land near Dobbs Ferry has been purchased for the site of the village and a novel architectural competition instituted to secure a complete working scheme for it. The plan is for a village on a farm land plateau on the east bank of the Hudson, and includes a schoolhouse, church, gymnasium, swimming pool, conservatory, power plant, electric light plant, local water and sewer apparatus, an office building, athletic field and cottages, one for each group of twenty boys and one for each group of fifteen girls. The girls' group is to be separated from the boys', and a general hospital and two industrial buildings provided. This new step means an entire change in the policy of the administration on the part of one of New York's oldest and largest charities. It is to substitute for a large institution small cottages with as close an approach as possible to natural environment homes with individual dining rooms and bedrooms, kitchens and sewing rooms in every little household. Charles Dewey Hilles who for fourteen years was at the head of the first cottage system reformatory at Lancaster, Ohio, has in hand the task of establishing the Dobbs Ferry village on even more advanced lines.

Appointment of Dr. Lapowski.—Mr. Boleslaw Lapowski has been appointed attending surgeon to the Department of Skin Diseases in the Good Samaritan Dispensary.

PHILADELPHIA.

Country Week Association.—This Association is now sending hundreds of children to the country weekly. In addition the board of many sick children is being paid at different seashore hospitals and occasionally thousands are given a day's outing on the Delaware.

Cannon Ball Farm Denounced.—Meetings of citizens are being held and petitions formulated against the ordinance for the purchase of the land known by this name as a site for the Municipal Hospital. The land is low and often partly submerged when there is high water. Protests of citizens from every locality previously considered have been made because they dread proximity to the hospital. In this instance the main objection is to the site itself as a hospital location. The Mayor is petitioned to veto the ordinance.

Woman Physician Demands Escort.—Dr. Mary Conard, a member of the resident staff of the West Philadelphia Hospital for Women, has resigned, it is said, because she was not furnished an escort when compelled to make calls late at night. The question of a night watchman to act as escort has been talked of but lack of funds has prevented an appointment. This may be brought about by Dr. Conard's resignation. The "Times" in an editorial comment, says: "It is plain that the world is not yet adjusted to the status of the new woman, and what deep despair is produced by the thought that it possibly never will be! The hands of women trained to medical skill have wrought untold good; but these women disdain the suggestion that their true field as physicians is a subordinate one, that they are best suited to be assistants to men in that capacity. Our sympathies are with Dr. Conard and we wish that the stern realities of life were not what they are. But the world is as it is and who is going to change it all at once?"

Optical College Refused Charter.—Judge Sulzberger has refused the application for charter of the Franklin Optical College. The master's report showed that the purpose of the incorporators was to establish an institution in which should be provided a course of instruction in the science relating to the structure of the eye and the laws of vision, and to qualify its stu-

dents as skilled opticians. They would also be instructed so they could recognize any pathological condition in an eye and be able to refer the applicant to the proper course for treatment. The course of studies was to be completed in two months. The charter was refused because the diploma of the school would be the expression of the efficiency of the recipient in a limited course of instruction on a medical subject.

Municipal Hospital at Chester.—Private citizens of Chester are to defray the expenses of erecting a municipal hospital at that place. Smallpox is still prevalent there despite the warm weather, the report for the week ending July 5th showing more than forty cases and four deaths. Smallpox still persists throughout the State, a number of counties having more than twenty cases. The Secretary of the State Board of Health has advised the officers of the various municipalities in the State to prepare for more smallpox next winter.

Hospital Suit Taken to Supreme Court.—The County of Philadelphia has appealed to the Supreme Court in the suit brought against it by the trustees of the State Hospital for the Insane for Southeastern Pennsylvania. The verdict was for \$67,500 for board, clothing, and treatment of indigent insane persons from Philadelphia in 1896. As a defence the city claims that excessive payments from 1885 to 1889 fully cover the indebtedness.

Atlantic City Hospital in Debt.—After July 15th no medical cases will be cared for at the Atlantic City Hospital. This is made necessary by the debt of \$28,000 now in existence. The surgical and children's wards will still be maintained and the accident and emergency department kept up. There is a rumor that Mr. and Mrs. Charles M. Schwab will come to the aid of the institution.

Physician Instantly Killed.—Dr. John K. Reinhoel of Lebanon had his neck broken by being thrown from his buggy in a runaway July 10th. Dr. E. B. Marshall, who was with him, was severely trampled upon by the horse.

A Couple Charged with Being "Witch Doctors."—Mrs. William McBride and an accomplice, Edgar Zug, of Carlisle, have been held for a hearing on the charge of extorting money under false pretences. A family was made to believe that it was under a witch's spell and would be relieved of it for a consideration. Something like \$500 has been given to them during the past year.

Pennsylvania Hospital for the Insane.—The annual report of this institution shows a population at the end of the year of 451, of whom 261 were women. During the year 93 men and 98 women were admitted. The receipts were \$226,700 and the expenditures \$227,400. During the year the building erected by Joseph E. Gillingham in memory of his wife, was opened. This furnishes to women patients liberal facilities for hydrotherapeutic treatment. A portion of the report by the chief physician, Dr. John B. Chapin, emphasizes a very important question. He says: "It has been an interesting experience of the year to note that fourteen patients suffering from neurasthenic conditions, with impaired physical health, threatened with mental disease, voluntarily sought admission to the hospital. If it were not for the unfounded and unwarranted prejudice existing toward hospitals for the insane, which even our laws indirectly foster, together with a disposition to conceal what is sometimes considered a blot on the family, there is no doubt that the number of voluntary admissions and recoveries would increase. There is no doubt that many suicides and other unfortunate experiences and calamities would be avoided. A request for voluntary admission indicates confidence in the hos-

pital, as well as a need of help. It implies a probability that there will be a co-operation on the part of the patient in the course of treatment. The proceeding has also the sanction of our State law. If the movement of the present year should be emphasized by an increasing number of similar applications, there will come a question whether the hospital has any special duty to a class who are on the very threshold of insanity, and how it can be best discharged. Neurasthenic and nervous invalids are often required to leave comfortable homes and live elsewhere while undergoing medical treatment. They will resort to so-called sanatoriums and other places, some of which are well enough conducted, but they are not well placed even there. They hesitate to enter a hospital for the insane, admission to which is hedged about with legal requirements, implying often mental incapacity. Were it not for these, such patients could be best managed in many of the hospitals for our country as now conducted. Many cases such as we are now considering have been held in abeyance by the family physician, within our knowledge, awaiting a time when mental manifestations would be so pronounced that an unquestioned agreement would warrant any proceeding—a delay often working great detriment to the patient. Such a special department, if ever created, would be more favorably located elsewhere than in immediate proximity to a hospital, would prove to be an important and enlarged adjunct to its work and be favorably regarded by the medical profession. Every voluntary admission to a hospital for treatment is a plea for the establishment of such a department."

An Interesting Periodical.—Messrs. P. Blakiston's Son & Co. have just issued the first copy of their "Medical Book News." The object of this publication is to furnish information of use to medical men in selecting and purchasing books on medicine and the allied sciences. This branch of literature has become so voluminous that the time seems opportune for the issuing of a periodical devoted to it. The "Medical Book News" will include descriptions of important books, reviews from medical papers, news items, lists of the most recent American and English books of all publishers, lists of new books on special subjects and announcements of forthcoming books.

There are many books, and a large number of special monographs of the greatest scientific merit published by other than regular medical publishing houses but which are never brought before the average book-buyer, who is dependent almost wholly upon the catalogues and advertisements of individual publishers and who has, therefore, no opportunity to compare relative values. The lists of new books will include, so far as possible, all such books, as well as the more important treatises. Every effort will be made to furnish this information promptly, authoritatively, and in interesting and attractive form. It is proposed to issue it bi-monthly, and to send it without charge to all who appear interested.

Filtration Work in Pittsburg.—Pittsburg is having troublous times with its filtration scheme. A portion of the work of installing the sand system was completed when a court decision caused suspension of operations until the entire cost was estimated. This showed the need of \$2,000,000 more than the original estimate. The question of issuing city bonds for that amount is to be submitted to the people, thus putting the responsibility upon the people themselves. If the issue of bonds be refused, it is said that the municipal authorities will install mechanical filtrations, which can be done with the money now available. All public work in Pittsburg is now mixed with factional politics which is under high pressure. The only outlook at present is a protracted delay of all filtration work.

CHICAGO.

Ruling Affects Medical Students.—The State Board of Health met recently at the Great Northern Hotel and decided that medical students must study seven months a year hereafter, instead of six months for four years; the forty months between matriculation and graduation must be spent in school in order to practise in this State. The required course of study is to be more exacting, and a high school diploma or the ability to pass an examination in high school studies will make it necessary for admission to the Freshman year. It is said that not more than 50 per cent. of the colleges in the country meet these requirements.

Examinations of Water.—Reports of experts who have made examinations of the water of the Mississippi, Illinois and Missouri Rivers, to ascertain the effect of the Drainage Canal were also made to the Board. These were all favorable to Chicago.

Appointment of Dr. Kuflewski.—Dr. Wm. A. Kuflewski has been elected a member of the Board of Education. He is also a member of the Library Board.

Mistakes in Treatment of Injured Persons.—The Supreme Court of Illinois says, in Chicago City Railway Company versus Cooney, a personal injury case brought by the latter named party, that the liability to mistakes in treatment is incident to the injury, and when such mistakes occur—the injured party using ordinary care in the selection of her medical attendants—the injury resulting from such mistakes is properly regarded as part of the direct damages resulting from the original injury.

Officers of the Eighth Infantry.—The following medical officers have been commissioned and assigned to the Eighth Infantry, Illinois National Guard: Major Allen A. Wesley, surgeon; Capt. Edward S. Miller and Lieutenant Eugene C. Coveington, assistant surgeons.

Appointment of Dr. Holmes.—Dr. Rudolph W. Holmes has been appointed obstetrician to the Passavant Memorial Hospital.

To Protect Babies.—Commissioner of Health Reynolds has issued an appeal for voluntary medical inspectors for a few weeks' service in the overcrowded tenement districts. The scope of the service is indicated in a circular letter to the volunteer medical inspectors. This inspection and relief service are not intended, except incidentally and in case of emergency, as a medical charity. Primarily its object is the instruction of mothers and those in charge of infants and children in the hot weather hygiene of the young—their feeding, clothing, bathing and care—with a view to the prevention rather than the cure of disease. Secondly, but of equal importance, its objects are the correction of sanitary defects and the abatement of nuisances prejudicial to the health of adults and children alike. Dr. Reynolds believes that such missionary work at the beginning of the hot season will result in a large saving of life.

GENERAL.

Gall-stones in Germany.—A German specialist estimates that in his country one out of every ten persons has gall-stones.

Bellamy Storer's Gift to Hospital.—Bellamy Storer, United States Minister to Spain, has given \$2,000 toward the fund for building the annex to Glocker Sanitarium, Colorado Springs.

Carl Binz.—The seventieth birthday of this celebrated professor of pharmacology at the University of Bonn was recently celebrated by appropriate articles in various German medical journals.

A German Society for Combating Venereal Diseases.—Such a society is in process of formation at Berlin under the leadership of Kirchner, Lesser,

Blaschko, Neisser and Galewsky. It is modeled on the basis of similar efforts against tuberculosis and alcoholism.

Inhalation during Antiquity.—A German investigator has found numerous references to this therapeutic measure in the writings of the ancients, who employed it both for narcotic and astringent effects. Herodotus, Pomponius, Plutarch, Pliny, and Apollodorus mention various leaves, fruits and roots used by inhalation in the treatment of coughs, nose-bleed, headaches, and insomnia.

Appointment of Dr. His.—Wilhelm His has been appointed professor of internal medicine and director of the clinic at Basel to succeed the late Friedrich Müller.

Climate and Sickness.—In the April "Bulletin of the Geographical Society," Prof. R. De C. Ward of Harvard uses the Report for 1901 of the Surgeon-General of the Army as a basis for "Notes on Climatology" in review of the medical aspect of tropical climates as affecting our troops. Disregarding the distinction between climate meteorologically considered and the conditions inseparably connected with it, we recognize that prolonged tropical residence diminishes the white man's energy and power of continuous work, and, besides, makes him liable to distressing diseases which, if not peculiar to those zones, at least flourish there with special virulence. Convalescence is slow, if it occurs at all on the spot. Military service renders our troops in the Philippines particularly susceptible to the effects of the climate and to climatic diseases. A special disability is tropical dysentery, of which there are two distinct forms. One is very serious, with an acute course, although not necessarily fatal. The other is marked by gradually increasing relapses, with intervals of remission and apparent recovery. The milder dysentery of temperate climates is also found in the tropics as a third variety. In the chronic form of tropical dysentery, nine times out of ten the only hope for recovery is transfer to a cooler climate, but medical officers as such have no authority to send men beyond the limits of the command, and their judgment is not always transmuted into orders by the officer who has such authority. So the high death and discharge-rates of the first eighteen months of Philippine occupation were in part due to executive inappreciation of expert advice. The fear of weakening the nominal strength present, and of exciting alarm at home by the arrival of successive shiploads of invalids, does not prevail now, and the men have in that, and in less disturbed conditions, a better prospect. Necessarily much grave sickness must be expected among troops suddenly transferred to unaccustomed fields, but Professor Ward errs in supposing that the admission-rate for intestinal diseases of 465.01 per 1,000 for the army at large represents admission to hospital. The rate is that at which men are excused from active duty, for short as well as longer periods, by admission to the sick-list. They may be sent into hospitals, but the majority are not. The soldier is non-effective for the time, but in the United States army the sick-rate is not purely a hospital-rate, but only inclusively, and, of course, it is probable that most of the sick men not in hospital are not seriously ill. In the British army the admission-rate does mean the hospital-rate exclusively, and is, therefore, not comparable with our own. So of the 465.01 only 94.83 were dysentery cases, the others being classed as diarrheas. In the China expedition the rate for this group was 1,266.54, of which 1,041.60 was for diarrhea. The total deaths emphasize the disparity in severity between the subdivisions of the group. These were 649, all but 84 being for dysentery; and probably of the 84 better discrimination at

the beginning would have classed a number under the more dangerous disease. In the China expedition, with its enormous admission-rate, there were only 31 deaths, all from dysentery, in this group. But a complete view would add to the mortality of 649 those discharged from the army for disability to the number of 181, as well as those who, incapacitated, remain in service beyond the period of this report. The latter would be accounted for in subsequent reports. The yearly military death-rate from disease in the Philippines of 20.26 per thousand, exclusive of that for discharges for disability, represents that obtaining among vigorous males of selected adult age, in spite of the fact that competent medical attendance is always available. By comparison, in Boston the average death-rate for males between twenty and fifty years old is but 3.42. Professor Ward has credited to a naval medical officer observations upon the China forces made by Majors Banister and Ives, respectively, of the Army medical staff.

American Association of Orificial Surgery.—The fifteenth annual meeting of this association will be held in Chicago, September 10 and 11, 1902. A program is being made up of lectures and papers by the leading specialists and practitioners in rectal, genito-urinary and gynecological work, and in the treatment of all chronic diseases. The orificial surgeons are the workers in the great field of the reflexes and the profession generally is every day being brought closer to a realization of the fact that the reflexes play a most important part in the chronic manifestations of disease. Papers and discussions will cover the entire scope of the work, preparatory, operative and therapeutic, and the sessions will be of great benefit to all who attend. H. C. Aldrich, M.D., of Minneapolis, Minn., President. Ralph St. J. Perry, M.D., Secretary, Farmington, Minn.

The Columbian University.—The following changes and additions have been made in the Medical Faculty of the Columbian University: Dr. Walter Reed, U.S.A., has been elected to the chair of general pathology; Dr. Sterling Ruffin, to the vacancy in the chair of practice of medicine; Dr. Thomas Claytor to the chair of materia medica and therapeutics; Dr. H. B. Deale, professor of clinical medicine; Dr. H. N. Hawkes, professor of clinical medicine; Dr. James Carroll, associate professor of pathology and bacteriology.

Government Food Tests.—It is reported in the daily press that the United States Government will establish a free table for people who are willing to have their stomach experimented with. The purpose is to conduct experiments to determine whether the foreign substances added to food products are detrimental to the health of man. While Dr. Wiley is in Europe the Civil Service Commission will hold examinations and prepare an eligible list of expert physiological chemists to aid him in the work. Congress appropriated \$10,000 for it. After that healthy young men who are willing to eat free food that may or may not have deleterious ingredients will be in demand. A report to the effect that anybody who wanted a free meal would be accepted by the bureau resulted in great agitation among the "hobo" brigade. Weary Willie, Roaming Riley, and their colleagues are besieging the bureau for information. None of them, it is to be feared, will get even a sight of the free food products with the foreign substances. If Dr. Wiley can get permission to experiment on college students they will be his preference. He wants to get some college to let him set up a "training table." Each student who eats at this table is to give his word of honor not to eat anything except what he gets at the Government restaurant. The first ten days or so will then be devoted to feeding the subjects a good health-

ful quantity of the ordinary foods with no object in view but to get them in a perfectly normal condition. Then the effect of a certain chemical—borax, for instance—will be tried. After the effect of this has been noted, another preservative chemical in common use will be taken up; then a coloring substance, etc., until the gamut of color and preservative has been run and the bureau has obtained data enough on which to base correct conclusions. A system similar to this is to be tried in the United States Army, when new rations will be tested.

The Donor of Yale Clinic.—Mrs. Thomas G. Bennett is the donor to Yale University of the new clinic for the Medical School. Not until recently could the identity of the giver be learned. The building is now nearly finished, at a cost of \$96,000. Mrs. Bennett's husband for a number of years, and until July 1st last, was a member of the Yale corporation.

Obituary.—Dr. Arthur Ward, one of the oldest and best known physicians in Newark, N. J., died last week at his home, in that city, of a complication of diseases. He was nearly seventy years old. His wife died about three months ago. Dr. Ward had practised for nearly half a century in Newark and was noted for the great amount of work he did among the poorer classes without pay.

Dr. David P. Fleming died on Wednesday last at his home in New York, of acute Bright's disease. Dr. Fleming was thirty-six years old, and was born in New York. He was admitted to the Bar in 1892, but two years later began the study of medicine and was graduated from Bellevue Medical College in 1896.

Dr. John Newell Tilden died at Peekskill, N. Y., last week, from a complication of diseases. Dr. Tilden, who was a member of many societies, was born in Onondago, N. Y., June 10, 1842. He was educated at Syracuse University, Hamilton College and the Long Island College of Physicians and Surgeons.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, July 5, 1902.

THE ILLNESS OF THE KING—THE GARGANTUAN MEALS OF ROYALTY—LORD LISTER AND THE USE OF DRAINAGE-TUBES—CORPORATION HONORS.

THE Cassandras who predicted that the King would not live to be crowned, and the wiseacres who always know the real facts of everything—after the event, are naturally exultant at the "fore knowledge absolute" of which they claim to have given proof. Careful inquiries in the right quarters, however, seem to show that the catastrophic development which nearly turned the viands prepared for banquets into funeral-baked meats came with almost as great a shock on the King's physicians as on the man in the street. The most absurd accounts both of the disease and of the operation have been published even in the best of the daily papers. The Bishop of Worcester, who is one of the lamps of the Church of England, is very indignant that he and the public generally were not forewarned as to what they might expect. They had been told, said his Right Reverence, they were to expect good and not evil. It was no good for them to have to feel that the rumors of clubs and streets were right and official declarations wrong. It was no good for those who desired to be all that loyal citizens ought to be to believe that the language of authority was unreal and not in relation to facts. He said this at that moment, and in that place, because it seemed to him that these were mo-

ments when the Church of Christ must ask those in authority and high places to do the utmost possible to tell the truth.

This may be taken as an index of the feeling of a considerable section of the British public when the news of the operation came as a thunderclap which drowned the noise of the multitudinous hammers driving in the last nails in preparation for the ceremony. But the episcopal eloquence was wasted, for there is no reason whatever to doubt that the official bulletins substantially told the truth as to the operation. The King had a large foul abscess in the neighborhood of the cecum; this was opened extraperitoneally and drained and is now granulating from the bottom. There is nothing extraordinary in the surgical aspects of the case; the greatest source of danger doubtless has been the over-anxiety of the physicians. When Marie Louise was in her time of travail Napoleon impressed upon the accoucheurs that they must treat the Empress exactly as if she were the wife of a small shopkeeper. King Edward has been a submissive patient and Sir Frederick Treves has sufficient force of character not to allow the rank of the patient to unsteady his nerves or disorder his judgment. As far as I can learn, there is no reason to fear any complications in the forms of adhesions. The worst danger lies in the unsoundness of the royal constitution, which every effort is made in the bulletins to hide, but which nevertheless now and then shows through the carefully guarded official language used.

To those who know anything of his mode of life the wonder is that his health is so good as it is. Like his mother, the late lamented Queen Victoria, he requires an abnormal amount of nourishment. In a collection of satires on Society, entitled "An Onlooker's Notebook," which has just appeared, there occurs the following interesting passage:

"An Illustrious Couple arranged to pay a two-nights' visit at a country house of which the owners were friends of mine. For reasons of expediency we will call the visitors the Duke and Duchess, though that was not their precise rank. When a thousand preparations too elaborate to be described here had been made for the due entertainment of them and their suite and their servants, the Private Secretary wrote to the lady of the house enclosing a written memorandum of his master's and mistress's requirements in the way of meals. . . . The day began with cups of tea brought to the bedroom. While the Duke was dressing an egg beaten up with sherry was served to him not once, but twice. The Duke and Duchess breakfasted together in their private sitting room, where the usual English breakfast was provided. They had their luncheon with their hosts and the house party, and ate and drank like other people. Particular instructions were given that at five o'clock there must be something substantial in the way of eggs, sandwiches or potted meat, and this meal the illustrious couple consumed with special gusto. Dinner was at 8.30 on the limited and abbreviated scale which has superseded the hecatombs of Francatelli. But let no one suppose that the Illustrious Ones went hungry to bed. When they retired supper was brought up to them in their private sitting room, and a cold chicken and a bottle of claret were left in their bedroom as a provision against emergencies."

The "Duke" referred to in this passage was a Prince when it was written and is now more than a Prince; it is unnecessary to dot the i's more plainly. The writer of the book, Mr. G. W. E. Russell, is a member of the great Whig family of that name, of which the Duke of Bedford is the head. Mr. Russell knows what he is speaking about. Besides, the Gargantuan repasts of royalty are matters of common notoriety. Evidently the British crown needs a great deal of support. At

the end of the last century some friends of popular freedom asked Parliament to pass a resolution affirming that "the power of the crown has increased, is increasing and must be diminished." A few years ago it was urged upon Edward the Seventh, who had not then come into his kingdom, but who was threatening to become the greatest man in the Empire, that a similar resolution having reference to the bulk and weight of his own royal person might be passed with advantage. He therefore—doubtless to the disgust of his physicians in ordinary—put himself into the hands of a practitioner who makes a specialty of producing the effect desired by Hamlet, described by his mother as "faint and scant of breath," when he prayed that his "too too solid flesh would melt." The King lost something of his superfluity of tissue and he still submits to some curtailment of his diet. But he might with advantage to his health practise for a time John Abernethy's advice to an Alderman suffering from much eating of turtle "to live on sixpence a day and earn it." So well have his habits in this regard been known to those of his lieges who were familiar with his mode of life that the occasions when he honored the mess of the Life Guards, or other crack regiment, with his presence were known among the officers as "gobble nights." His Majesty not only eats much, but bolts his food so that it is difficult for the servant told off to look after him to keep pace with him. The wonder is that he should not have needed the services of an abdominal surgeon long before.

In connection with the facts that drainage-tubes were used, it may be interesting to mention that the first patient on whom Lord Lister used drainage-tubes was Queen Victoria. In the early '70s the late Queen suffered from a large axillary abscess which burrowed under the mamma and was very difficult to drain. India-rubber tubes were used with success. It may not be inappropriate here to recall the fact that Her Majesty was one of the first patients whom Sir James Young Simpson delivered under chloroform. It was a bold measure, which was fully justified by its success, and did much to popularize the use of chloroform among women of lower station.

A shower of Coronation honors has, as predicted, fallen on the medical profession; it is scarcely possible to go to a medical gathering without cannoning against a baronet or finding one's self elbow to elbow with a Knight Commander of the Bath. As for Simple Knights, or "Knights Bachelors" as they are called, they are too common even *monstrari digito*. Details will be given in my next letter.

FOREIGN SOCIETIES.

German.

THE RELATION BETWEEN INFECTION AND THE GLYCOGEN ACTION OF LEUCOCYTES—ACTINOMYCOSIS OF THE HEART—RENAL PATHOLOGY—RECTAL PROLAPSE—TALMA'S OPERATION—SHUTTING OFF PART OF THE INTESTINAL TRACT—EXTIRPATION OF THE KIDNEYS AND THE DIAGNOSIS OF NEPHRITIS BY CRYOSCOPY—THE FUNCTIONAL DIAGNOSIS OF THE KIDNEYS—PALLIATIVE OPERATIONS ON THE SKULL—THE OPERATIVE TREATMENT OF CHRONIC OBSTRUCTION—OBSTRUCTION OF THE INTESTINE AND ANASTOMOSIS IN PERITONITIS—PLASTIC CLOSURE OF DEFECTS IN THE BILE PASSAGES BY SEROSA-MUSCULARIS FLAPS TAKEN FROM THE STOMACH OR GALL-BLADDER—THE PERMANENT RESULTS OF FORCIBLE STRETCHING IN CONTRACTURES ABOUT THE KNEE WITH TRANSPLANTATION OF TENDONS—THE DIAGNOSIS OF MYOSITIS OSSIFICANS TRAUMATICA—PRIMARY TUMOR OF THE LUNG.

THE Twentieth Congress of Internal Medicine was held at Wiesbaden from the 15th to the 18th of April,

1902. At its various sessions the following interesting papers were discussed among a great many others of much merit.

KAMINER (Berlin) read a paper on the relations between infection and the glycogen reaction of leucocytes. This reaction he stated is obtained through cultures of and the toxins of streptococci, staphylococci, pneumococci, Friedländer's bacilli, typhus bacilli, bacillus pyocyaneus, bacterium coli communis, anthrax bacillus and through the toxins of diphtheria. The reaction is not produced through the toxin of tetanus and those elaborated by the bacilli of hen cholera. Through an enormously high degree of immunization it is possible to hinder the normal susceptibility of the leucocytes to iodine, which should be normally present after the diphtheria toxin has been acting. The normal marrow of the bones contains no cells which are susceptible to iodine. On the contrary, however, they may be found in the marrow whenever they occur in great abundance in the circulating blood. Of the various significances which iodine has attached to it through the brown color which it gives to various substances, the one described by Ehrlich is the most probable.

V. SCHRÖTTER (Vienna) read a paper on that medical curiosity, actinomycosis of the heart. The diagnosis was clinically established before death by the actinomycetes, the formation of fistula in the mediastinum, cardiac arrhythmia, pericarditis, weakness of the heart, and edema through interference with the circulation. It was further established at the autopsy. The author showed not only the heart itself, but microscopical sections made in series at various levels through the heart. The muscle tissue was very little affected; only in the connective tissue substance were the little masses of actinomycetes found and around these small cell infiltration. These really produced relatively large masses between the muscle fibers just as they do in actinomycosis of other organs. Notwithstanding this extremely damaged heart the patient lived a long time with it and followed the occupation of day laborer.

ROSENFELD (Breslau) read a paper on the general pathology of kidney disease. The microscopical distribution of fatty tissue is in the human kidney comparatively unimportant. On the one hand the amount which is distinguishable by chemical examination may or may not be increased above the normal, and on the other hand the same examination may apparently show it abnormal when this is not the case. Microscopically normal kidneys may show an apparent increase in the fat tissue. Pathological kidneys may average in the amount of fat they contain the same as normal kidneys, and the line of demarcation with respect to this fat tissue between the normal and the abnormal is very difficult to draw and follow. In dogs normal kidneys average 21.8 per cent. of fat by weight. In these animals (dogs) the total amount of fat in normal kidneys is not altered in any way after poisoning with phloridzin, phosphorus, bichromate of potash, and other similar poisons, but is decreased to about 17 per cent. by cantharides and chloroform. Alcohol alone appears to increase the quantity of fat. If one averages the weight of fresh and dry kidney substance per kilo of the total body-weight and likewise the amount of fat tissue in the same series it will be found that there is no special poison which constantly increases the amount of fat. In the case of chloroform and cantharides, the apparent decrease seems to be due rather to an increase in the other elements of the organ. Sometimes this may follow the line of decrease rather than increase. In the case of an increase in the amount of chloroform or alcohol consumed there is probably no consequent fatty degeneration of the kidney.

Another German Congress which has been recently

held is the thirty-first reunion of the German Society of Surgery, which occurred at Berlin, from the 2d to the 5th of April, 1902.

V. EIS (Vienna) presented a contribution on the operative treatment of large prolapses of the rectum. After describing the customary methods of treating prolapse of the rectum, namely, massage, narrowing of the anus after Gersuny's method, resection and various forms of suture, with a brief criticism of each, the author gave his results with them upon such material as has passed through his hands. Massage has given him very favorable results. A twisting of the rectum and narrowing of it after Gersuny's method has never in his hands succeeded well. A resection of the bowel has been in several cases necessary after using this method. Moreover, not every case is at all applicable to this method. Latterly in twelve patients he has tried fixation of the rectum to the anterior abdominal wall, kolpopexia, and has obtained good results. The method of operating is briefly this: An oblique incision is made over Poupart's ligament. The sigmoid flexure is seized and stitched carefully to the front wall of the body. Recovery was uneventful in all patients. Out of his total number he has had three recurrences. Of these he cured one by a second operation like the first. In another in whom the flexure was unusually long he had a fatal outcome through a hematemesis following an ulcer of the duodenum which, of course, had nothing whatever to do with his treatment of the rectum. The third of these relapses he cured by making an anastomosis with a Murphy button with entire satisfaction. The author further states that for all slight cases massage after the method of Brandt is the treatment of choice, while in severe cases the above scheme of kolpopexia is indicated.

BUNGE (Königsberg) read a paper on Talma's operation stating that the fixation of the omentum to the anterior abdominal wall can be carried out both intra- and extraperitoneally. The numerous experiments upon animals which he has made have proved to him the advantage of Talma's operation. In the clinic of Königsberg there were eight cases of cirrhosis of the liver with ascites with two failures, four cures and two deaths. The present total reported in literature of this operation is now 90 cases with 32 cures, that is, the ascites was corrected. In addition in a few instances hematemesis was stopped. He considers Talma's operation modified by suturing the omentum to the spleen as well as to the abdominal wall is the best method extant for correcting difficulties in the obstruction of the portal circulation. The suturing of the spleen within the omentum has been carried out by him only twice in man. But he considers it a most assured method of establishing a collateral circulation for the portal system. He then described the usual dangers of the operation characterized by kinking of the intestines from the intra-peritoneal fixation which is usually not of importance. On the other hand, the extra-peritoneal method of suturing the omentum provides the danger of ventral hernia. There delirium is frequently present, with cramps which are apparently due, at least so far as experiments upon animals will show, to the errors in the chemical alterations of carbonic-acid gas in the urine. This can be largely corrected by decreasing the amount of meat fed to the animals. The author thinks this operation is justifiable when diabetes is present. Chronic jaundice, bile in the urine and other diseases and conditions going with faulty liver action are contraindications of it.

PRUTZ (Königsberg) read a paper on the results of reversing sections of the intestine, especially with reference to its bearing on indicanuria. The author reviewed the historical records of the attempts made up to the present time to isolate parts of the intestinal tract

and to estimate its bearing upon the dangers to life. He then added his observations in twelve experiments of his own. Without exception he found in a short time a widening at both ends along the suture lines. Very frequently there remain undigested masses of various foodstuffs within this intestine, especially pieces of bone and perhaps straw. Atrophy of the muscularis is very common. In the urine there is an enormous increase in the amount of indican which quickly rises to a maximum and remains at a very high level. In one case he obtained through the reversal of the intestine the paradoxical condition of a dilatation distal to the stenosis. His experiments as to the metabolism taking place in these animals showed that reversal of the intestines without exception brings about severe damage to this function of the body. This fact seems to furnish the key to understanding the cachectic results which follow this experiment. They do not, however, have much bearing upon the clinical results of stenosis of the intestines.

KÜMMEL (Hamburg) read a paper discussing the results of successful extirpation of the kidney and the points of diagnosis of nephritis determined by cryoscopy. In the urine of 265 patients he determined the freezing-point and feels that he has at the present time much cleared the question whether the freezing-point of 0.56 C. is the normal for healthy kidneys. Insufficiency of the kidneys as a rule begins at the average temperature of 0.61 C., a point which indicates that an operation should not be attempted. He has tabulated his results and shown the value of the determination of freezing-points in the presence of various diseases of the kidneys which in common are in agreement with similar indications obtained by catheterism of the ureters, as to whether an operation is indicated or contraindicated. He then discussed the subject of nephritis in general, which he considers almost always a double-sided condition, on which, through itself, occasional pains and bleedings are often brought under the hand of the surgeon. On the question of bleeding from the kidney he agrees entirely with Israel's contention to the effect that this condition never exists without some anatomical and pathological basis to account for it. Aside from the two reported cases of Schede and Klemperer there appears to be no well-established exception to this rule. Hemorrhage in nephritis he has also found to be usually double-sided. In the treatment of nephritis he compared the procedure of Israel with that of Edlefsen, which relies upon the methodical tearing off of the capsule of the organ, while Israel aims to stop the symptom by splitting the entire organ. He is surprised that Edlefsen has regarded nephritis as a single-sided condition. He closed by emphasizing the value of the freezing-point as a means of substantiating the findings of catheterism of the ureter.

LÖWENHARDT (Breslau) presented a contribution on the diagnosis of kidney function. The speaker regarded cryoscopy as probably the most valuable means of investigating the condition of the kidney functions. It is possible and, in his opinion, advisable to corroborate cryoscopy by testing the electrical resistance of the urine. He discussed this subject, stated his results, and exhibited tables which show that electrical resistance always agrees with the changes in freezing-point. A probably original procedure with this author consists in an apparatus with a telephonic connection by which the resistance of the urine can be heard. An induction coil is so arranged that it is just impossible to hear anything in the telephone with the urine in the circuit as a resistance. Resistances of known value are put into the circuit until the same result is obtained and then a reading is given, which, of course, will equal the resistance of the urine, which naturally has been removed out of the circuit during the second part of the experiment.

A. SANGER (Hamburg) read a paper concerning the palliative operations on the skull in inoperable tumors of the brain, stating that in the presence of every such tumor a trepanation should be done with splitting of the dura. He then presented a patient in whom a cerebellar tumor made such an operation necessary from its clinical features. After an early marked improvement through treatment with inunction, the patient was seized with threatening symptoms proceeding from the brain. His skull was opened but nothing definite was found. After this improvement occurred for two and a half years until finally difficulties with speech appeared, with a staggering gait and pains in the head. The author then read the histories of eleven cases of brain tumor in which this operation alone with no other treatment had relieved pressure upon the brain and brought about distinct improvement, including disappearance of a swollen papilla and of headache.

FRANCKE (Braunschweig) discussed the subject of operative treatment of chronic obstipation. In one patient suffering from this condition he has twice done a laparotomy in order to establish anastomosis between the ileum and the sigmoid flexure and then the second stage concerned a unilateral isolation of the colon. Success followed this second procedure.

HEIDENHEIM (Worms) took up the important subject of peritonitis followed by obstruction of the intestines treated through anastomosis. He thinks that the great majority of patients suffering from peritonitis die not of the inflammation or of the sepsis so much as of the secondary paralysis and obstruction of the intestines. This follows in peritonitis not so much through adhesions, but through the important factor of paralysis. In four of his patients in whom he found such an obstruction he made on the proximal side of the apparent point of the difficulty an anastomosis and was pleased to obtain a most brilliant result. Only one of these patients died because he had overlooked an abscess in the cul-de-sac of Douglas. He adds his conviction that a patient may have a large evacuation of feces and gas from the intestine and yet suffer an inflammatory obstruction. Such examples he has seen. He does not, however, under any conditions agree with Doyen as to the advisability of making a fecal fistula.

KEHR (Halberstadt) read a paper in which he described an ingenious means of closing defects in the bile passages by means of plastic flaps, comprising the serosa and muscularis and taken from the stomach and gall-bladder. His first premise is that these defects of the bile passages do not often follow short incisions, 3 to 4 cm. long. At least in his own experience he has always seen rapid healing follow such if the bile itself is sterile. If, however, the bile is infected, the margins of the incision soon become necrotic. His second premise is that these defects may arise from injuries to various arteries in the neighborhood. He has found that these defects can be quickly and permanently cured by making flaps which comprise the serous and muscular coat of the stomach or gall-bladder, depending upon the proximity of the sinus to either of these organs. He suggests that when possible stenosis be avoided by making the suture line run transversely to the axis of the duct. If this cannot be done the suture line must, of course, be parallel with it.

HEUSNER (Barmen) discussed the permanent results following the forcible stretching of contractures about the knee with transplantation of tendons. He described the cases of transplantation of the semitendinosus and biceps upon that of the quadriceps. These he had presented to the society at the meeting last year and called attention to the fact that in one of the cases in which he had made use of the biceps tendon, internal rotation and other contractures had resulted. For this reason

he does not recommend this special procedure. Since then he has treated three other cases with transplantation of tendon, one of them in the presence of more or less severe rheumatism of the joint. In this patient both the biceps and semimembranosus were transplanted. He took the latter muscle because its expanded tendon permitted a better suture than that of the semitendinosus.

VULPIUS (Heidelberg) had a paper on the subject of the diagnosis of myositis ossificans traumatica discussing two theories concerning its origin. First of all it may arise from fragments of periosteum torn away with the muscular attachment and carried more or less within the muscular tissue. This periosteum then produces bone and makes it appear as if the bone arose within the muscle. He operated upon one case in which this condition was clearly established; the development of the bone had taken place by an unexplained manner within the muscle tissue itself, and had caused practically bone cysts within the tissue muscle. He showed a specimen of this condition.

WAGNER, at the Medicinische Gesellschaft in Chemnitz, March 19, 1902, reported two cases of primary tumor of the lung diagnosed from clinical signs before death. The first patient was a 25-year-old artisan, the victim of a cerebral paralysis from childhood and of a left-sided exudative pleurisy of normal course. These were his only previous illnesses. In the beginning of 1901 he took sick with pains in the right upper region of the chest, a dry cough and slight fever. Upon examination in February there were widely-dilated veins above and below the right collar-bone, a marked dullness with the feeling of fixed resistance and high-pitched loud bronchial breathing without any râles from the third rib in front upward over the tip of the lung down to the spine of the scapula behind. The left vocal chord was also affected (paralyzed). The diagnosis was sarcoma of the lung. Twelve days after he was suddenly seized with severe dyspnea, transferred immediately to the hospital and a tracheotomy was performed in the hope of saving him, but death soon occurred. At the autopsy a spindle-cell sarcoma was found involving the whole of the right upper lobe except a small mass about the right main bronchus. The tumor involved the vena anonyma, subclavia, and the right aorta. The second patient still lives at 43 years of age, a blacksmith by occupation, dating his sickness from about a year ago with pains in front on the left side of the breast, an annoying dry cough, and later, a dirty, slimy, fluid expectoration. Examination of the lung at the present time shows dullness on the left side from above down to the second rib, beginning between the median and papillary line, entering below more or less into the normal dullness of the heart, accompanied by sharp bronchial breathing without râles. The heart is twisted about three finger-breadths over the right margin of the sternum. Over the whole of the left lung, which seems to take part very little in the function of breathing, there is a high-pitched, somewhat weakened, somewhat indefinite breath sound, and a remarkably decreased, almost absent, voice fremitus. The X-ray picture showed a deep shadow corresponding with the area of dullness, otherwise there were normal conditions. The probable and even almost certain diagnosis is a carcinoma at the root of the left lung, compromising a large amount of the air-passages within that organ.

PUERPERAL HEMORRHAGE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: You will place me under great obligation by permitting me to correct some statements made by Dr. George Seymour in a paper entitled "Puerperal

Hemorrhage" published in the issue of May 24, 1902, of your journal.

Dr. Seymour, in referring to an article of mine (American Medicine, January 11, 1902), states: "The latter (Dr. Ehrenfest) summarizes his paper by flatly repudiating the statistics he quotes in saying, 'The results of Cæsarian section are worse than is usually stated.'"

I fail to see how I flatly repudiate the statistics which I quoted. All the papers written in favor of Cæsarian section in cases of placenta previa state that the mortality of Cæsarian section is very low, some going so far as to claim that Cæsarian section has no mortality at all. I believe that I show clearly by the statistics which I give that statements of this kind are unjustifiable and erroneous.

Dr. Seymour reproaches me with "giving much emphasis to what he (Dr. Ehrenfest) terms his method, which he teaches and which we all know is almost as old as the oldest medical literature and teaching."

I am entirely at a loss to understand what led the doctor to infer that I claim any priority or credit for my method. If the doctor will take the trouble to look more carefully over my paper he will see, that No. 6 of my conclusions, dealing with what he terms my method, reads as follows: "A careful study of the published statistics shows that the most promising treatment of placenta previa is the following." Does that not clearly indicate that I merely reported the method of others, which experience has proved satisfactory?

Finally, I regret to note that Dr. Seymour considers the modern method of treating placenta previa to be identical with "the practice in vogue for centuries" except for the introduction of antiseptics and asepsis. I do not desire, however, to enter here into a discussion as regards the proper treatment of placenta previa since I shall have occasion to do so elsewhere.

HUGO EHRENFEST, M.D.

St. Louis, Mo., June 27, 1902.

SOCIETY PROCEEDINGS.

THE AMERICAN PEDIATRIC SOCIETY.

Fourteenth Annual Meeting, Held at Boston, May 26, 27 and 28, 1902.

FIRST DAY—MAY 26TH.

President's Address.—Dr. W. S. Christopher of Chicago said that development was the keynote of pediatrics. No branch of medicine had so large a field yet to be explored, more possibilities of usefulness, or deals with more fundamental biological truths. The subject of pediatrics was a part of general medicine, but general medicine was free from active interest in the subject, and in practice and teachings many important factors were omitted. Pediatrics was preventive medicine of the highest order, because the developmental period of human life could be so strangely acted upon by environment. Dr. Christopher referred to the writings of John Fiske, stating that the longest period of development was to be found in man, and that a long period of development was associated with complex life activities. The more complex the life of an animal, the more nerve connections must be established to control the varied experiences. In the course of development a period was finally reached in the animal scale when the necessary nerve connections could not be established before birth, but were partly established by education after birth, thus giving rise to a period of infancy. The course of natural development, the pathological conditions dependent upon deviations from this course, together with the influence of environment, were fac-

tors of sufficient moment to create the subject of pediatrics. The consideration of the anatomical development was easy; functional development had not been so well studied. Of the environmental factors, nutrition and infection were preëminent, which physical and mental acts a close second. Dr. Christopher thought that the establishment at Washington of a laboratory for the study of the criminal and pauper classes, at present being considered by the Department of the Interior, should be favored. Such investigations would furnish valuable data for the study of child development.

Intussusception: Clinical Remarks.—In presenting this paper Dr. F. Huber of New York said that success in the treatment of acute intussusception was dependent upon early recognition of the lesions and a knowledge of the limitation of methods of injection and inflation. He reported the case of a male child, eight and one-half months old, weighing nineteen pounds. Its previous health had been good and there was no history of trauma. On March 21st the child was seized with a sharp attack of diarrhea; in twenty-four hours eight stools were passed which contained much mucus and undigested casein; there was no vomiting or pain. At 8 A.M. March 22nd a large liquid stool was passed without pain, but with increased peristalsis. At 10 A.M. the child was given its bath and was apparently feeling well. At 11:15 A.M. he became suddenly restless. At 12:30 P.M. a warm enema of salt solution was followed by a small stool and the passage of considerable gas. At 1:45 P.M. the child was suddenly seized with severe abdominal pain, recurring in paroxysms at intervals of from five to twenty minutes. At 2 P.M. the child vomited food; later the vomit was bile-stained, and at 4 P.M. it had a faint fecal odor. The expression of the child was anxious, the abdomen soft with a slight swelling in the region of the transverse colon. The bowels had not acted for five hours. A high rectal enema was given which was followed by a bloody mucous discharge resembling currant jelly. At 5:20 P.M. the case was seen by Drs. J. F. Erdmann and H. M. Silver. A saline injection caused a disappearance of the tumor and soon after blood and mucus appeared at the anus, but, as no feces passed, partial reduction was thought to have taken place. A laparotomy was performed and the mass reduced; twenty hours later a liquid stool was passed. Convalescence was uneventful. Dr. Huber said that Edmund Owen (Brit. Med. Jour., Sept. 7, 1901) established a diagnosis on the following considerations: Sudden abdominal pain, vomiting, passing of a stool, associated with tenesmus and containing blood and mucus, and the presence of a tumor, usually in the ascending colon. The injection was of advantage in that it might reduce the invagination or lessen the size of the tumor and thus diminish the field of operation. It should be employed only during the first twenty-four hours of the attack. The impossibility to gauge the amount of pressure and the difficulty in excluding beginning gangrene constituted the chief disadvantages of the method.

Intussusception: Surgical Comments.—Dr. John F. Erdmann of New York said that operation for intussusception was accompanied by far less mortality than when the injection and inflation methods were depended upon. An attack lasting over twelve hours should always be treated surgically. Shock was not to be considered a contra-indication but rather as calling for more rapid reduction. Dr. Erdmann said that traction on the proximal end of the invagination was apt to result in a tear; in reducing pressure should be made on the apex of the mass at the distal extremity. These two papers were discussed conjointly. Dr. Caillé of

New York said that the value of percussion in locating the intussusception should not be overlooked. Dr. Putnam of Boston asked how pressure sufficient to cause reduction could be obtained without the use of a plug to prevent an outflow of the fluid. Dr. Jacobi of New York said that the bowels were not iron pipes and that the best results were obtained by gentle pressure. Dr. T. M. Rotch of Boston considered that the testimony of museum specimens was in favor of gentle dilatation rather than of strong pressure.

Healed Septic Endocarditis.—Dr. Samuel S. Adams of Washington, D. C., spoke of his connection with the Children's Hospital of that city. He said that septic endocarditis had been considered infrequent in children, but he thought the affection far more common than was generally believed. The condition was difficult to diagnosticate, a fact which undoubtedly caused many cases to be overlooked. Osler had reported 209 cases, only three of which were under three years of age. The tendency to-day was to disregard former classifications and consider differences as of degree rather than kind. Dr. Adams reported the case of a child six years old that had recovered.

In discussion Dr. Jacobi thought that these cases were caused either by the presence of bacteria or toxins. In those types termed malignant, bacterial deposits were usually found on the valves. Cases dependent upon toxins were apt to get well because the toxin was sooner or later expended or eliminated.

A Case of Chondrodystrophy Fetalis.—Dr. John L. Morse of Boston reported the case of a male child who died at the age of four months. At two months he weighed six pounds and was apparently of average intelligence. With the exception of very short legs the child was normal. Dr. Morse said that knowledge of the etiology of this condition was very deficient, heredity probably playing an important part. Most cases died early; mild cases frequently reached maturity.

In the discussion Dr. J. P. C. Griffith of Philadelphia reported two cases which were considered chondrodystrophy fetalis. The patients had paddle-shaped hands and feet. Dr. L. Emmett Holt of New York gave the history of a case four years old in which he had used thyroid almost continuously for two years without apparent improvement.

The Management of Rheumatic Children.—Dr. F. M. Crandall of New York called attention to the frequency with which symptoms of rheumatism in children were distributed over months and years and not massed as in adult cases. Many symptoms were habitually found in children which were rarely seen in adults. The management embraced the subjects of clothing, exercise, diet and medication. Flannel should be worn all seasons of the year, thin in warm weather. Exercise and outdoor life should be encouraged in rheumatic children; they should be carefully housed, however, when damp east winds are prevailing or the streets filled with slush. The diet should be generous and nourishing. The marked tendency to anemia in these children was a fact too often overlooked. Restrictions in diet should be in the direction of sugars and starches. In considering the subject of medication, Dr. Crandall said that much could be done to prevent acute outbreaks by the use of salicyl compounds, which should be administered in small doses three times a day, a week at a time of every month of the year. In active treatment the physician should aim to control the fever, relieve pain and check any local symptoms by neutralizing the effect of the rheumatic poison, and should try to prevent the involvement of serious structures, especially the heart. The methods of treatment in vogue at the present time were the alkaline and the salicylic. The advantages and disadvantages of each were about

equally distributed. Large doses were required in either case at the outset and both methods were apt to disturb the stomach and depress the circulation. The salicylic compounds were perhaps more effectual in prevention of serous involvement. In commencing treatment the child should be given a cathartic, preferably calomel, salines having a tendency to increase anemia in children. Dr. Crandall gave sodium salicylate, forty grains a day, to a child six years old in five-grain doses every three hours. During the first three days the drug should be given at regular intervals day and night; after the third day, if the disease was under control, the intervals should be diminished. The drug should never be given on an empty stomach. Hyperpyrexia could be controlled by cold baths or cold packs or small doses of phenacetin guarded with a stimulant. Bearing in mind the rapidity with which anemia is prone to develop in rheumatic children, iron should be given as soon as the temperature is below 100° F. and a generous diet should be given as soon as possible. In carrying out local treatment, the joint should be protected from air by a flannel bandage or cotton wool. Heat would often relieve the pain in a marked degree. Oil of wintergreen was of doubtful benefit and the odor soon became very objectionable. At the beginning of an attack the child should be put to bed at once between flannel blankets or in a flannel covering and kept there until all evidence of the affection disappeared, a point in the treatment of much value in the prevention of cardiac involvement.

In the discussion Dr. H. D. Chapin of New York said that a child should be under observation for at least two years after an attack of rheumatism. Dr. Jacobi said that prevention was better than cure and that children should become more accustomed to cold water and that the throat and tonsils should receive particular attention. Dr. A. D. Blackader of Montreal said that the importance of a generous diet was underestimated. Many rheumatic children were underdeveloped owing to a lack of proper nutrition.

Typhoid Fever in Children under Two and a Half Years of Age.—Dr. J. P. C. Griffith said that it was a common belief that typhoid fever in children under two years of age was exceedingly rare. A more detailed study and greater care in diagnosis would probably tend to eliminate differences of opinion which existed on this subject. Dr. Griffith reported several cases which had come under his notice. He said that typhoid in infants under three months was not recognized during life but had been revealed at the autopsy.

In the discussion Dr. Morse said that typhoid fever was rarely found in infants in Boston. Dr. Holt thought that there was not sufficient evidence to prove that typhoid in infancy was common.

Typhoidal Appendicitis in Children.—Dr. A. Seibert of New York considered that typhoid fever in children was a subject that had received too little attention. He reported two cases of typhoidal appendicitis; the first case was of a male child, eleven years old, in whom a diagnosis of typhoid had been made. The patient was suddenly seized with severe abdominal pain chiefly localized in the right lower segment; the temperature rose to 106° F. and there were vomiting and marked prostration. An operation was deemed advisable and an ulcerated appendix removed. The wound discharged pus for several weeks. Dr. Seibert displayed several charts illustrating variations in the temperature curve.

SECOND DAY—MAY 27TH.

Report of a Case of Extreme Enlargement of the Spleen with Anemia; Autopsy.—Dr. S. McC. Hamill of Philadelphia reported the case of a child six years old, first seen in March, 1897. The family history was

negative; the previous history was good. He had a sudden attack of profuse epistaxis followed by hematemesis and severe gastric pains which lasted several weeks. There was a marked prominence of the abdomen, and on palpation a large, firm mass in the upper left segment could be made out. Urinary examination was negative. The patient felt well for nineteen months, but examination showed an increase in the size of the spleen. In January, 1900, there was a second attack of abdominal pain, with hemorrhage from the stomach and bowel. In January, 1901, no change in the spleen was detected. In February of the same year the child took a severe cold and developed a third attack similar to the one described, but with a fatal outcome. The autopsy showed an adherent spleen, seven by four inches. The kidneys were larger than adult organs and exceedingly pale on section.

A Case of Venous Thrombosis Resulting in Extensive Cerebral Hemorrhage in an Infant Fifteen Days Old.—Dr. Hamill showed a specimen from this case and also a specimen of fused kidneys, an interesting accidental finding at the autopsy.

Presentation of cases of Tubercular Peritonitis.—Dr. T. M. Rotch presented six cases in which a laparotomy had been performed and read a brief history of each case. He said that the operation was not difficult and was accompanied by favorable results when performed by a skilled operator. When a diagnosis of tuberculosis of the mesenteric glands or peritoneum had been made, he considered an abdominal section indicated. Of twenty cases under his care that had undergone operation, eighteen were alive and apparently well, having been observed from two to five years after operation. Since the operation was practically devoid of risk, Dr. Rotch said that the patient should be given the benefit of any doubt and a laparotomy be performed.

In the discussion Dr. Forchheimer of Cincinnati said that although a properly performed operation was practically harmless, it was not easy to select suitable cases for operation. Dr. Koplik of New York thought that there was but little difference in the results whether operation was resorted to or not. A child should not be submitted to operation unless good medical treatment had been tried unsuccessfully. Dr. Jacobi said that if the tuberculous process was localized the child was likely to get well no matter what was done, unless the surroundings were unfavorable, in which case the disease was likely to progress. He recommended rest, good air, good food, and the giving of cod-liver oil in winter, guaiacol in summer together with sodium or potassium iodide. When the tuberculous process was disseminated no treatment was likely to be of much avail; cases of over two years' standing were almost always fatal. Results were about the same whether operation was performed or not. In closing the discussion Dr. Rotch said that it was not good medicine to resort to operation as a last hope, especially as the operation was accompanied by so little danger.

The Use of the Term Euanthem.—In presenting this paper Dr. Forchheimer said the French had adopted this term in 1882 and the Germans soon after. He thought that the term should be adopted, first, because it was etiologically correct; second, it had been adopted by the French and Germans, and there should be a tendency to make medical nomenclature international; third, time was saved by its use; fourth, it was precise in definition, as the term was applied to eruptive fevers, the connection would always preclude any doubt as to meaning. In the discussion which followed, opinion was divided as to the advisability of introducing a new and unnecessary term into medical nomenclature.

Some Remote Diseases Arising from Tonsillar Infection.—Dr. Forchheimer, in presenting a second paper, said that it had been a long-established fact that the tonsils might be the seat of infection in remote parts of the body. Among such infections were recognized diphtheria, erysipelas, tuberculosis, pneumonia, scarlatina, measles and possibly acute articular rheumatism. It was unusual to find bacteria present in the tonsil; a rapid blood-current, resistance of the epithelial coat of the tonsils, or possibly an active phagocytosis, might explain this fact. In most cases of tonsillar infection the lymph-nodes at the angle of the jaw were swollen, a fact which might suggest the possibility of bacteria being taken up by the tonsils. Having gained an entrance, bacteria were carried into the general circulation by the lymph or the bloodstream. Several authorities were quoted to show that bacteria had been found in the blood. The remaining factor necessary for remote infection was a locus minoris resistentiae. Toxin absorption was also capable of giving rise to remote affections. A case of typical tonsillitis followed by appendicitis was reported. After the tonsillitis had run a normal course, there was a sudden rise of temperature accompanied by severe abdominal pains in the region of the appendix. McBurney's point was sensitive and vomiting was severe. The case received appropriate treatment and recovered without operation. The appendix, being rudimentary in structure and function, formed a locus minoris resistentiae. Another case of appendicitis following tonsillitis was reported in which operation was resorted to. The patient developed signs of nephritis, endocarditis and pyelitis in rapid succession. The septicemic symptoms occurred so soon after the operation it was thought that the infection was in all probability not from the appendix. Dr. Forchheimer also reported five cases of jaundice following infection of the tonsils. In each case the jaundice appeared in less than ten days after the infection of the throat. All gastro-intestinal disturbances which might give rise to jaundice had been carefully eliminated.

Clinical Observations in the Management of Circulatory Failure in Acute Infectious Disease.—Dr. Augustus Caillé said that it was often difficult to select a proper stimulant, because it was not always easy to determine the cause of circulation failure. Saline infusion, enteroclysis and hypodermoclysis had been used in various septic conditions with gratifying results. The infusion was followed by almost immediate results, hypodermoclysis gave a reaction in from five to ten minutes; in either case the action was more prompt than that of drugs. The salt solution was given at body temperature. At from 110 to 120° F. enteroclysis acted as a stimulant to the kidneys and thus favored the elimination of poisons.

In discussion Dr. Charles Gilmore Kerley of New York said that the colon never absorbed more fluid than the system required. He made use of a small rectal tube which was inserted until it could be felt in the descending colon. Enteroclysis had proved better than any other one measure in acute suppression of the urine and post-scarlatinal nephritis. Dr. Seibert had used enteroclysis in typhoid, but never used a catheter in this condition for fear that damage might be done to an ulcerated mucosa. One and a half pints of salt solution were injected every six hours with hips slightly elevated. Dr. Jacobi said that enteroclysis acted in two ways: It furnished a new circulating medium and at a high temperature, 110–120° F., was a powerful stimulant, acting chiefly on the splanchnic nerves. Dr. A. C. Cotton of Chicago recommended the addition of small quantities of asafoetida and turpentine to the saline solution.

Chronic Parenchymatous Nephritis in a Child Treated by Renal Decapsulation (Edebohls' Operation).—Dr. Caillé reported the case of a five-year-old child who had had several attacks of severe nephritis. Nine months after the last acute attack the child was admitted to the New York Post-Graduate Hospital, where a diagnosis of chronic parenchymatous nephritis was determined upon and both kidneys were decapsulated. The kidneys were exposed by the lumbar incision, the capsules stripped off, and the organs replaced. The child recovered. The fibrous capsule of the kidney acted as a barrier between the fatty capsule, which was abundantly supplied with blood, and the kidney. When the fibrous capsule was removed a new source of blood-supply to the kidney was made possible. If recovery from a nephritis following an acute infectious disease was delayed longer than six months, Dr. Caillé recommended an exploration of the kidneys, advising decapsulation if they should be found enlarged.

Specimen of a Large Thymus Gland.—Dr. Caillé showed this specimen, which had been removed from an infant six weeks old. The child, which had apparently been in good health, suddenly became restless, refused to nurse, was seized with a convulsion and died. Dr. Jacobi called attention to the fact that the distance between the manubrium sterni and the vertebral column was scarcely over two centimeters, and said that a congestion of the thymus lasting but a few seconds might press upon the respiratory structures with sufficient force to cause suffocation. When the body of the child was inclined forward the size of the thymus might be determined by percussing from below.

Effects of Tight Diapers.—Dr. A. C. Cotton said that the diapers ordinarily used were unhygienic. They should be made of cheese-cloth, applied loosely and well padded with absorbent cotton. The cotton should be destroyed as soon as it was soiled. Dr. Cotton showed an infant pelvis, demonstrating the fact that it was composed chiefly of cartilage and extremely flexible. Steady general compression on such a structure would tend to retard its growth and development. Radiographs were shown illustrating the effects of tight binders and diapers. Dr. Cotton said that the tendency of tight diapers to cause a bowing of the femur had been a recognized fact for some time; he also thought that tight diapers might be responsible for a certain percentage of the justo-minor pelves, so frequently found.

THIRD DAY—MAY 28TH.

Two Cases of Umbilical Fistula Due to Tuberculous Peritonitis.—Dr. George N. Acker of Washington, D. C., reported the case of a five-year-old male child presenting a typical picture of tuberculous peritonitis. During a paroxysm of coughing a rupture occurred at the umbilicus which resulted in the formation of a fecal fistula. The edges of the orifice became indurated; tubercle bacilli were found in the pus which discharged from the opening. At the autopsy the fistula was traced to an opening in the gut and to a cavity firmly adherent to the abdominal wall. In reporting a second case Dr. Acker described the condition of a colored girl eight years old who was suffering from peritoneal tuberculosis. While coughing this patient also had a rupture occur at the umbilicus. The rupture was followed by a mucopurulent discharge. After twenty-four hours a thin yellow serum was observed which had a fecal odor. At the autopsy the fistula was also traced to a sac formed by adhesions to the abdominal wall. The rupture in each case was thought to be due to a congenital defect in the abdominal wall. Dr. Chapin reported two similar cases.

Diphtheria With and Without Antitoxin.—Dr. Ker-

ley reported observations made by him on 159 cases at the New York Infant Asylum. He called attention to the fact that all of these cases were well fed and housed and had an additional advantage of having skilled attendants and physicians within ready call. Of 103 cases treated without antitoxin 60 died; the remainder received the antitoxin and of these 3 died. In drawing inferences from his experience Dr. Kerley said that the administration of antitoxin should be delayed until after a culture had been taken in any suspicious case. Beneficial effects should be seen in from ten to twenty hours after the injection of the antitoxin; if no improvement is noticed more antitoxin should be given. If a fresh deposit of membrane be seen twelve hours after an injection, more antitoxin should be administered, even though the patient show signs of improvement. An urticaria was sometimes seen after an injection, but usually disappeared in a few days. In conclusion Dr. Kerley said that whenever there is visible membrane, antitoxin should be used; it should also be employed in every case of inspiratory and expiratory obstruction even though no membrane can be seen. Two thousand units should be used in children under one year, 3,000 units in those over a year, the amount to be repeated when necessary.

Intubation in Diphtheria.—Dr. John H. McCollom of Boston said that the hopeless condition of laryngeal diphtheria before the days of antitoxin and intubation was well within the memory of all members of the society. A brief history of the intubation-tube was given and several varieties shown. In feeding an intubated patient Dr. McCollom used the esophageal method owing to the frequent complication of middle-ear disease. A soft rubber tube open at the end was to be preferred to the catheter, which was more apt to become clogged. The mortality of intubated patients was about 25 per cent. without eliminating moribund cases. Tracheotomy might be considered a better operation when a doctor was not within easy call, since an intubation-tube was often coughed up. Whenever the patient could be properly watched, intubation should be the operation of choice, for it was attended by little shock, parents readily consented to it, and the chances of bronchopneumonia were not increased. Dr. McCollom had seen but one case in twelve hundred in which the tube was retained and had to be worn for over a year. He made it a rule to leave the tube in place three or four days, but frequently it was coughed out at the end of forty-eight hours and replacement was unnecessary. If there should be a moderate laryngeal stenosis, antitoxin should be given at once without waiting for the results of a culture. Not infrequently a diphtheritic process began in the lungs or bronchi and ascended, giving rise to a severe laryngeal diphtheria without causing a sore throat. A rigidity of the sternomastoid was often a warning sign of approaching stenosis.

In discussing the papers of Drs. Kerley and McCollom, Dr. Caillé said he thought that the results in intubation were made better by the use of sublimated calomel, the latter tending to loosen the membrane. Cases of retained tube were usually due to a cicatrix, a result of injury to the larynx. The operation should be undertaken only by those who had acquired skill in its performance. Dr. Jennings said that he never gave more than 5,000 units to any one individual; more than this he considered a waste of material. An intubated child could be fed satisfactorily when allowed to lean over the edge of the bed with the head low and suck fluids through a tube. Dr. Chapin of New York thought that much pneumonia might be prevented if the intubation-tube were frequently cleansed and the inspired air allowed to pass through a sponge kept moistened with warm water. Dr. Buckingham thought

that the esophageal tube was unnecessarily severe since feeding could be accomplished by raising the foot of the bed and turning the child's face to one side. Dr. Cotton of Chicago always had tracheotomy instruments at hand when intubating a patient in case the tube should become occluded by loose membrane. Dr. McCullom said that vocal cord paralysis might cause retention of a tube as well as injury to the larynx. When loose membrane had been crowded down in the introduction of a tube, it was usually coughed out if the tube was quickly withdrawn. After introducing a tube the thread was cut if the tube could be felt in the larynx after ten minutes; swallowing the tube was an annoying, but not dangerous accident. In closing the discussion Dr. Kerley said that the poison of diphtheria should be promptly met with sufficient antidote.

Tetany of the Type called Pseudotetanus.—Dr. Irving M. Snow of Buffalo said that several cases of a pseudotetany had been described which resembled idiopathic tetany in the onset, but differed in subsequent course and termination. Dr. Snow described a case of diphtheria with persistent trismus and opisthotonos. Tetanus antitoxin was used, but had no effect; the contractions were finally controlled with morphine. Several other cases of so-called pseudotetany were cited which were associated with diphtheria, otitis media and intestinal worms.

In discussion Dr. Jacobi asked why mild tetanus should be given a new name. He knew of many cases that had been cured or relieved by chloral hydrate or morphine. These cases were increasing as the number of immigrants increased and were probably in some way associated with rickets. Dr. Holt thought that these cases of tetanus were closely associated with rickets and that intestinal intoxication might furnish an exciting cause.

The Management of Fat in the Feeding of Difficult Cases in Infants.—Dr. T. S. Westcott of Philadelphia said that precision was apt to be overlooked in the present-day effort to simplify infant-feeding. In meeting the requirements demanded by abnormal infants, mere mathematics failed. Each individual case should be studied and the aim of the physician should be to give the child the greatest amount of nourishment that could be digested. The ratio of digestive ability in infants was extremely variable and could only be determined by a careful analytical examination of the stool. In chronic gastric catarrh the percentage of proteids in the food was often lowered to prevent the appearance of curds in the stool. Several writers were quoted to show that too high a fat percentage as well as a high proteid percentage might also cause the appearance of curds in the stool. A high fat percentage was considered to be a more frequent cause of vomiting than any other condition of the food. Too much fat should always be suspected if vomiting persisted after the reduction of the proteid percentage. The favorable results sometimes obtained by the use of condensed milk and certain proprietary foods were explained by the low fat and proteid percentage which they contained. The danger of under-feeding should always be guarded against in the treatment of chronic gastro-intestinal catarrhs. A more frequent use of a cream and wheat mixture was recommended.

In discussion Dr. Chapin said that cream contained a very inconstant fat percentage unless centrifuged. He agreed with Dr. Westcott in that a food formula should be based upon a stool analysis. Dr. Holt said that if fresh milk were cooled quickly in quart bottles in four hours practically all the cream would have risen to the upper fourth. It was a common mistake to try to over-

come a tendency to constipation by increasing the fats in the food, since this condition was probably dependent for the most part upon the low total solids. If the fat percentage were increased because stools were considered abnormal, trouble might be expected. The physician should endeavor to find out what a child could do and not base his feeding upon what he thought the child ought to do.

Recent Investigations upon the Proteids of Milk.—Several charts were showed by Dr. Chapin representing the results of an analysis of 200,000 quarts of cow's milk. Attention was called to the varying proteid percentages in the milk of several animals, the percentage being highest in the milk of those animals which developed most rapidly. The percentage of albumoses and peptones in the milk of various animals was compared with that of similar bodies found in human milk. Dr. Chapin said that the main object in feeding was to increase body cells. Proteids did not contain phosphorus; body cells did; from this it was thought that albumoses and peptones might be transitive forms. The question of mixing the different kinds of proteids in varying proportions opened up a field worthy of investigation.

Local Variations in the Mortality of Summer Diarrhea.—Dr. Chapin, in presenting a second paper said that while a high infant-mortality was undoubtedly largely due to the presence of multitudes of bacteria in the milk, there were other factors at work. Generally speaking, one-half of the population of New York State lived in a maritime district, the other half in country districts. A study of statistics showed that when the death-rate was high in the maritime it was low in the country district and *vice versa*. Tables of deaths during the last ten years in the maritime and country districts, together with a complete report of weather conditions, were shown, and a possible influence of the weather conditions on the death-rate hinted at. The spores of certain putrefactive bacteria which had been abundantly formed in dust of the city streets might easily infect exposed milk. Since the New York streets had been torn up in the construction of the subway, the infant death-rate from summer diarrhea had increased 58 per cent. The heaviest mortality did not occur during the hottest weeks and was apparently but little influenced by humidity. Dr. Chapin said he presented these facts with no intention of drawing conclusions.

In discussion Dr. Siebert said that the reason more children died in July than August was because in the latter month they were not there to get sick.

A Case of Auto-intoxication with Unusual Urinary Findings.—In reporting this case Dr. C. G. Jennings of Detroit described a female child, ten years of age, who had a gouty father and a neurotic mother. The patient was subject to attacks of auto-intoxication; she became languid, tongue was coated, indigestion troublesome and she vomited frequently. Following these symptoms a condition of coma developed, the child being especially sensitive to light and sound. On the fifth day of the trouble, the extremities became cold and the pulse feeble. After a free evacuation of the bowels, the patient showed marked improvement. Particular attention was called to the finding of neutral magnesium phosphate in the urine.

In the discussion Dr. Edsall said that acid-intoxication frequently accompanied such conditions. Dr. Christopher said that he had noticed a high degree of urine acidity in cases of auto-intoxication and had known cases of cyclic vomiting to have been relieved by large doses of sodium bicarbonate.

Notes on the Temperature Curve in Acute Croupous Pneumonia.—Dr. Jennings reported five cases of croupous pneumonia and called attention to a sharp

remission in the temperature which occurred on the third day. The remission was not accompanied by a corresponding decrease in the pulse-rate or rate of respiration.

Report of a Case of Pneumonia.—Dr. Walter L. Carr of New York reported the case of a child, eight months old, in whom there was developed a rapidly extending pneumonia. The temperature was very irregular and bore no definite ratio to the pulse-rate. Quinine was given without any influence upon the temperature; a blood-examination was negative. The case, which was rapidly fatal, proved to be one of streptococcus infection. It was interesting to note that the child's paternal grandfather had died of a streptococcus infection three days after an injury to the tongue; a maternal aunt had also died of a streptococcus invasion.

Officers of the Society.—The following officers were elected: President, J. P. Crozer Griffith, Philadelphia; First Vice-President, Henry D. Chapin, New York; Second Vice-President, F. S. Churchill, Chicago; Secretary, Samuel S. Adams, Washington, D.C.; Treasurer, J. Park West, Bellaire, Ohio; Recorder and Editor, W. L. Carr, New York.

BOOK REVIEWS.

THE EYE, EAR, NOSE AND THROAT. Volume III. of "The Practical Medicine Series" under the general editorial charge of GUSTAVUS P. HEAD, M.D. This number specially edited by Casy A. Wood, A.M., M.D. (Eye); Albert H. Andrews, M.D. (Ear); and T. Melville Hardie, A.M., M.D. (Nose and Throat). The Year-Book Publishers, Chicago.

THE first division devotes 130 pages to summarizing the year's literature on the eye, the second division, 90 pages on the ear and the third, 108 pages on the nose and throat. What is of value has been collected into this handy volume which is a work of great convenience and helpfulness. The feature of classifying the material under headings enhances it still more. Giving the references on the same page as a foot-note is admirable. The undoubted value of this yearly compilation of all the literature on these subjects into one volume and the success of its predecessors place the work beyond the experimental stage. In fact the book is much needed and ought to be greatly appreciated by the workers in this field. The reviewer thinks much better paper should have been used in the book.

DIE OTITISCHEN ERKRANKUNGEN DES HIRNS, DER HIRNHAUTE UND DER BLUTLEITER. By Dr. OTTO KÖRNER, Professor of Medicine and Director of the Clinic and Polyclinic for Ear and Throat Diseases in Rostock, with a preface by ERNST VON BERGMANN. Third Edition, with 5 plates and one illustration in the text. J. F. Bergmann, Wiesbaden; G. E. Stechert, New York.

THIS excellent treatise on the ear, diseases of the brain, meninges, and sinuses, has well deserved to reach its third edition since 1893. The 216 pages of scientific handling of this most interesting of all subjects in the present progress of ear-work are compact with the most recent results of advanced work by both English and American specialists as well as by the recognized European workers. It is refreshing to find the Continental investigators paying more attention of late to what is being done in America as well as in England. The form and make-up of the work are superior to that of similar books published here. The work is divided into two parts, general and special. In the former are considered statistics, special anatomy of the parts concerned, kinds of primary ear diseases which can cause

intercranial suppuration, influence of the place of primary diseases in the temporal bone on the differentiation of intercranial complications, the mechanism of infection and prophylaxis of brain diseases of otitic origin.

The second division is devoted to the following considerations: Suppurative inflammation of the outer surface of the dura mater and extra-dural abscess; otitic pachymeningitis interna and intrameningeal abscess; purulent otitic leptomenigitis, meningitis and meningo-encephalitis serosa, etc.; tuberculous meningitis and brain tuberculosis extending from the ears and temporal bone; phlebitis and thrombosis of the sinus of the dura mater and jugular vein; otitic brain abscess; brain embolus following thrombosis of the carotid from middle ear suppuration and caries of the temporal bone. Only 21 pages are devoted to the first division, while 183 are given to the latter, more interesting and important division.

A feature of great value in this work, which is beginning to be called for in modern works of this kind measuring up to the requirements of the times, is a full and complete acknowledgment by page reference of all the writers who have contributed to the investigation.

DIE BERUFSSKRANKHEITEN DES OHRES UND DER OBEREN LUFTWEGE. By Dr. FRIEDRICH RÖPKE. J. F. Bergmann, Wiesbaden; G. E. Stechert, New York.

A TREATISE of 147 pages is devoted to the consideration of the effect of the various classes of occupations upon diseases of the ears and upper air-passages. The subject is considered under six different headings. The first considers the various forms of industrial and hand-work employments under sixteen separate classes, such as mining, metallurgy, textile industry, etc. The second heading includes all farm industries. The third, soldier life on land and sea. The fourth, the service of public conveyance, telegraph and post office. The fifth, the life of sporting people. The sixth, various other different occupations. The work is doubtless useful for quick perusal, yet must have been written only at the cost of great painstaking and research. The bibliography, which is complete, is helpfully appended to each division. The form and make-up are, as usual, with this publisher, all that one could desire.

THE SOCIAL EVIL, WITH SPECIAL REFERENCE TO CONDITIONS EXISTING IN THE CITY OF NEW YORK. A Report prepared under the direction of the Committee of Fifteen. G. P. Putnam's Sons, New York and London.

THERE have been many books written on this subject. Some few have been valuable, others worthless. This volume, we believe, belongs to the former class.

The objects which the Committee of Fifteen sought to accomplish were as follows: (1) To institute a searching inquiry into the causes of the present alarming increase of gambling and the social evil in New York; (2) to publish the results of such investigation; (3) to promote such legislation as should render it less difficult to reach offenders, and (4) to suggest and promote the provision of more wholesome conditions and surroundings.

All of these objects have been partly reached by this investigation, none of them, we believe, wholly. One radical defect in the make-up of this committee, it seems to the present reviewer, was the absence among its numbers of a member of the medical profession; and the results given show most glaringly the defects in the mode of investigation. While there is a large modicum of common sense in the presentation, there

is a surplus of the consideration of the subject from the so-called moral or ethical standpoint—that viewpoint that holds up dirty linen at arms' length and with closed nostrils for fear of soiling one's clothes and offending one's nostrils. There is a great lack of an appreciation of the problem from an economic, biological standpoint, and a totally inadequate handling of the sanitary aspects of the questions.

Notwithstanding such differences of opinion as to the proper attitude to be assumed, in presenting such a work to the public, we feel that for the purposes outlined no better way of writing the book could have been devised. It is meant for the gentle, yet interested and, be it confessed, very curious public; and as physicians, sanitarians and scientists we welcome it, believing it to be the best treatise on the subject published in modern years.

EINFÜHRUNG IN DIE PHYSIKALISCHE ANATOMIE. Von HERMANN TRIEPEL, Privatdocent und Prosektor am Anatomischen Institut in Griefswald. J. F. Bergmann, Wiesbaden; G. E. Stechert, New York.

THIS book is an essay on a new subject. It treats of two important peculiarities of tissues, tissue elasticity and resistive quality, entirely from their physical standpoint. As the author remarks in the preface, very little room is given in anatomical text-books to the physical properties of tissues, although these properties are extremely important for the accomplishment of the various functions of the organism. This introductory work consists of two parts, the theories of elasticity and resistive power in the elementary tissues themselves, and the elasticity and resistive power in the tissues and organs of human beings. We have learned to realize in recent times that the specific gravity of the body may have a very suggestive and even practical significance in the study of different forms of obesity. These studies in this volume go still farther in this direction so as to demonstrate the specific physical qualities of all forms of tissues. As befits an essay in a new field the book is eminently suggestive.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Vol. V. Obstetrics. Edited by REUBEN PETERSON, A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, and HENRY F. LEWIS, A.B., M.D., Instructor in Obstetrics and Gynecology in Rush Medical College, April, 1902. The Year-Book Publishers, Chicago.

As might be supposed, no comprehensive treatise on this subject could be gotten into this little book. The idea of the editors has been to give an intelligent, condensed, epitome of the best work that has been done in scientific obstetrics. It is, then, simply a series of connected and arranged abstracts of the articles published in journals and periodicals relative to the physiology, surgery, therapeutics and pathology of the pregnant, parturient, and puerperal periods of reproduction. The best works have been gone over, and have been carefully collaborated. No attempt at criticism is made, but the book is offered as an index reference. It should prove valuable to those wishing a bird's-eye glance of the year's obstetric progress.

MALADIES DE LA VOIX. Par le Dr. ANDRÉ CASTEX, Chargé du Cours de la Laryngologie à la Faculté de Médecine de Paris, etc. Paris. C. Naud, Editeur, 3, Rue Racine, 1902.

THIS little work is written in a semi-popular vein and is intended rather for the use of singing teachers and their pupils than for the profession at large. It is the affections of the voice itself, i.e., vocal disturbances

without any or with but minimal laryngeal lesions, that are considered, though the effect of various constitutional and other bodily conditions likely to come into play are also discussed. The subject-matter is very attractively presented and we commend the book to all those interested.

PROGRESSIVE MEDICINE. Edited by Dr. H. A. HARE, assisted by Dr. H. M. Landis. Vol. I, 1902. Surgery of the Head, Neck and Chest—Infectious Diseases—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Lea Brothers & Co., New York and Philadelphia.

THE present volume of "Progressive Medicine" carries out all of the accumulated promises of the former volumes. The sections on Surgery and on Pathology we believe to be most noteworthy; that on Pathology especially conforms more truly to the reviewer's ideal of that which is of paramount importance in its special field. The author has fully grasped the general theme on which a work of this kind is constructed and has intelligently worked over the mass of material to make it of value to the reader.

In treatises of this nature it is, we believe, essential to epitomize, as it were, the earlier chapters in the story and thus present to the reader the preliminary ground in a short, terse manner and then tell the tale of recent advance, else a quarterly digest is a hodgepodge of abstracts, arranged even at their best. For the most part the contributors to "Progressive Medicine" have done their work well and conscientiously. It is to be hoped that they will continue as promisingly.

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. Compiled by DIANA CLIFFORD KIMBER, Assistant Superintendent, New York City Training School, Blackwells Island, N. Y. The MacMillan Company, New York.

THIS is an excellent small manual, but we believe that the trained nurse who does not know more than this book contains relative to the subject of anatomy or physiology would be very illy prepared for her important life-work. Apart from this superficial view of the two subjects the work is very admirable.

NOTHNAGEL'S ENCYCLOPEDIA OF PRACTICAL MEDICINE. Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping-cough, Hay-fever. By H. IMMERMAN, TH. VON JURGENSEN, C. LIEBERMEISTER, H. LENHARTZ, G. STICKER. Edited with additions by JOHN W. MOORE, M.D., F.R.C.P., Professor of the Practice of Medicine in the Royal College of Surgeons in Ireland. Authorized translation from the German, under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. W. B. Saunders & Co., Philadelphia and London.

THE preeminence of this monumental system in its original tongue makes its translation an event of the greatest importance; and all of those concerned in its production in this form merit in the highest degree the gratitude of the English-speaking profession. The present volume represents the labors of a most eminent group of specialists whose names alone carry conviction and whose work has been done in a manner to make its perusal interesting and instructive in the extreme.

The lion's share of the volume, as might be expected, is devoted to variola and its congeners, vaccinia, varicella and varicella, over 300 pages being allotted to their discussion. The introductory essay on the history of the disease and the closing one on antivaccination agi-

tation are particularly good, the latter forming a most crushing arraignment of the whole motley crew of those obstructors of progress from the "conscientious objectors" to those who predict absolute physical and moral degeneracy for the entire race as the result of this salutary measure. In the author's closing words, "Again, vaccination fulfils the claims of a perfect prophylactic. . . . It is easily performed and its practice is dangerous to no one." Equally important is revaccination, which also should be made compulsory for the whole population.

The article on cholera is equally valuable and brings much information on a disease which our European confrères have had better opportunities of studying than, fortunately, has been our lot. The bibliography appended is very voluminous.

In considering the etiology of erysipelas Lenhartz concludes that specificity of a single germ is improbable and says at the close of a discussion of the pros and cons: "After all this we may accept as proved that the streptococcus can not only produce erysipelas and dependent internal suppurations, but also the primary pus-formation, whether or not it be followed by a true erysipelas; that a similar relation exists between puerperal fever and the coincident erysipelas; and, lastly, that general sepsis, which fortunately rarely follows or is accompanied by a true erysipelas, is due to the same streptococcus." The author after running the gamut of the extensive therapy recommended has abandoned internal medication almost entirely and relies mainly on soothing local applications and purely symptomatic treatment. The editor in a note ascribes the greatest value to the local and internal use of sodium salicylate in combination with quinine and terms it an "almost specific remedy."

The treatment of whooping-cough has called forth almost as many plans of therapy as the preceding disease, but Sticker says that the best that can be said of the so-called specifics is to hope that they may prove abortives; and of these quinine and camphor deserve most consideration.

The riddle of the etiology of hay-fever is still left unanswered by the same author, although he gives an exhaustive résumé of the possibilities; he also admits that in spite of the countless methods of treatment advocated we have not a single authentic record of a cure.

MINOR SURGERY AND BANDAGING. Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By HENRY R. WHARTON, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. Fifth Edition. Enlarged and thoroughly revised. Lea Brothers & Co., Philadelphia and New York.

The popularity of this comprehensive little volume is well attested by the rapidity with which the successive editions have appeared. It presents the subjects indicated by its title in succinct but adequate form and is probably the most complete book of its kind that we have. The photographic illustrations of the various bandages described are a great advance over the conventional wood-cuts and are more helpful to the beginner because less schematic. Many of the fracture dressings are illustrated in the same way and are equally satisfactory. We are told that the book has been completely revised and brought up-to-date and a survey of the work seems to justify this assertion, for we find sections on such modern topics as X-ray burns, Laplace's intestinal forceps and spinal cocaineization. Altogether we can give it nothing but praise and wish for

it a continuance of the success it has already won and so richly deserves.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By Dr. OTTO ZUCKERKANDL, Privatdocent in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited by J. CHALMERS DA COSTA, M.D. W. B. Saunders & Co., Philadelphia and London.

THE excellence of the series of hand atlases, of which this volume is one of the most practically useful, has already become widely known. While it is true that operative surgery most imperatively demands actual practice before any degree of confidence or proficiency can be attained, still such a work as the present cannot but be of the greatest assistance to the student as a text-book and to the operator for reference. In the letter-press brief descriptions of the more important operations are given and these are elucidated to an unusual degree by the many cuts and colored plates. The latter are especially deserving of praise, and even in this age of cheap book-making one cannot but marvel that their production at the very moderate price of the volume should be possible. The sections devoted to the ligation of arteries and amputations are perhaps the most practically useful, and in these the cutaneous incisions and relations of the vessels are shown in a manner second only to demonstration on the cadaver.

The translation has been accurately and smoothly done, though an occasional Teutonism, such as "preternatural anus" and "ectopy of the bladder," creeps in and sounds strangely to American ears.

THERAPEUTIC HINTS.

Lupus Treated by X-rays.—A young woman came to Canada to try change of climate for lupus of the face. G. P. GIRDWOOD (Montreal Medical Journal, May, 1902) began treating her with X-rays, giving eight sittings of eight minutes each on alternate days. After an interval, he substituted high currency for the X-rays for twenty-seven days. The improvement was most marked, but there was a brown discoloration of the scar. The author would not express an opinion as to the relative efficiency of X-rays and high currency.

Anorexia in Tuberculosis.

R Pulv. condurango

Sodii bicarb. aa. gm. 10.0 (3iiss)

M. Div. in 20 cachets. One an hour before each meal. Or:

R Tinct. condurango

Tinct. cinchonæ aa. c.c. 30.0 (5i)

M. Sig.: One teaspoonful three times a day before meals in water or infusion of melissa.—DEBOVE ET GOURIN in Le Progrès Médical, May 31, 1902.

Mercury Cyanide in Syphilis.—The free use of cyanide of mercury subcutaneously or intravenously in severe forms of syphilis is strongly urged by JEHIN-PRUME (Montreal Medical Journal, May, 1902). He cites several cases so treated with marked success when routine treatment with pills and ointments had failed.

Hemorrhoids.—Of the symptomatic remedies for external and mixed hemorrhoids the first is the toilet of the anus. The patient must keep the region absolutely clean, after every defecation washing the anus and the hemorrhoids with absorbent cotton dipped in boric acid solution, or, better, a solution of tannic acid, a teaspoonful to a quart. Cold antiseptic or astringent washes are very agreeable. Neurasthenic patients should not be given too much to do locally, or they may be found examining their anus at every convenient hour by mirrors and reflectors.—I. BOAS in "Diseases of the Intestines."